



University of West Alabama's Applied Manufacturing Technology Program:

Year 4 Final Evaluation Report

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Table of Contents

Executive Summary.....	i
Evaluation Methodology.....	i
Implementation Evaluation Findings.....	iv
Summative Evaluation Findings	ix
Conclusions.....	xii
Chapter 1: Introduction	1
Overview of the AMT Project.....	1
Evaluation Questions	2
Project Framework	3
Report Organization.....	9
Chapter 2: Measures and Data Collection.....	10
Extant Data.....	10
Project Staff and Partner Interviews	11
Partner Survey	11
Student Entrance Survey.....	12
Student Exit Surveys.....	13
Chapter 3: Summative Evaluation Design and Analysis Plan	14
Summative Evaluation Questions	14
Study 1	14
Study 2	16
Study 3	18
Chapter 4: Summative Evaluation Findings	21
1. 'To what extent has the AMT project achieved its projected outcomes?	21
2. 'To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?	23
3. How does the AMT project work to support participant outcomes?	24
Chapter 5: Implementation Evaluation Design and Analysis Plan.....	26
Implementation Evaluation Questions.....	26
Fidelity Assessment.....	27
Data Analysis	30
Chapter 6: Implementation Evaluation Findings.....	31

1. How were the key strategies and activities of the AMT project implemented over the course of the project period?.....	31
2. To what extent were the key strategies and activities implemented as planned?.....	39
3. What changes were made to the programs of study during implementation and for what reasons?.....	51
4. To what extent is the AMT model sustainable and transferable?	52
SGA Questions.....	55
Works Cited	61

Appendices

Appendix A: AMT Programs of Study and Rollout Plan by Grant Year 3

Appendix B: AMT Participant Eligibility Criteria

Appendix C: AMT Participant Selection Rubric

Appendix D: AMT Prior Learning Assessment Protocol

Appendix E: Advisory Subcommittee Roles and Responsibilities

List of Tables

Table 1. AMT Project Strategy Overview	4
Table 2. Evaluation Questions and Data Collection Methods.....	10
Table 3. Student Entrance Survey Response Rates by Cohort	12
Table 4. Student Exit Survey Response Rates by Cohort.....	13
Table 5. AMT Participant Characteristics ($N = 228$)	15
Table 6. Study 2 Sample Characteristics ($n = 89$).....	16
Table 7. Study 2 Variables	17
Table 8. Reliabilities of Persistence Factors	18
Table 9. Study 3 Sample Characteristics ($n = 102$).....	18
Table 10. Reliabilities of Constructs Measuring AMT Strategies and the Mediator	20
Table 11. AMT Outcome Measures.....	21
Table 12. Changes in Student Perceptions of Persistence and Retention Related Factors.....	23
Table 13. Mediation Modeling Results by Outcome	24
Table 14. Numbers of Implementation Indicators Across Implementation Areas	28
Table 15. Participants' Assessment Status in Years 1, 2, and 3.....	33
Table 16. Interaction Frequencies between Coaches and Students	34
Table 17. Levels of Partner Involvement in Various Project Activities	37
Table 18. Job Placement Related Activities and Services in Years 2 and 3.....	38
Table 19. Adherence of Project Implementation.....	39
Table 20. Quality Index Score by Project Strategies Over Time: Student Perspectives.....	44
Table 21. Quality Index Score by Project Strategies Over Time: Partner Perspectives	47
Table 22. Participant Responsiveness Index Score by Project Strategies Over Time: Student Perspectives	48
Table 23. Participant Responsiveness Index Score by Project Strategies Over Time: Partner Perspectives	50

List of Figures

Figure 1. UWA AMT Service Area	
Figure 2. AMT Project Logic Model.....	3
Figure 3. Hypothesized Mediation Pathways.....	19
Figure 4. Adherence Findings: Percentile of Reaching Full Implementation Over Time	43
Figure 5. Participant Perspective of Implementation Quality: Percentile of Reaching the Highest Quality Index Score Over Time.....	46
Figure 6. Partner Perspective of Implementation Quality: Percentile of Reaching the Highest Quality Index Score Over Time.....	48
Figure 7. Participant Perspective of Participant Responsiveness to Implementation: Percentile of Reaching the Highest Participant Responsiveness Index Score Over Time.....	49
Figure 8. Partner Perspective of Participant Responsiveness to Implementation: Percentile of Reaching the Highest Participant Responsiveness Index Score Over Time.....	50

University of West Alabama's Applied Manufacturing Technology Project Year 3 Annual Evaluation Report

Executive Summary

In October 2012, the University of West Alabama (UWA) was awarded a Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant from the U.S. Department of Labor (DOL) to expand and improve career training programs in manufacturing fields. Over the past four years, the initiative, titled the Applied Manufacturing Technology (AMT) project, expanded the university's existing programs as well as developed new programs to provide comprehensive and customized industrial training to prepare high-skilled workers in high-paid manufacturing jobs. The AMT project was an important workforce initiative for the region (Black Belt region: Choctaw, Dallas, Greene, Hale, Marengo, Pickens, Sumter, and Wilcox), where some counties already suffer from low educational attainment, high rates of poverty, and high unemployment rates (some counties have unemployment rates as high as 15%). Most importantly, the residents of the Black Belt region have limited access to higher education opportunities.

Using TAACCCT grant funding, the AMT project served a total of 228 participants across Alabama's Black Belt region in gaining the skills and knowledge needed to be successful in the field of manufacturing, especially in the areas of industrial maintenance, mechatronics, and computer information technology. The demographics of AMT participants were primarily Black or African American (83%) and male (80%). About 90% were enrolled full-time; 48% were employed upon enrollment (incumbent workers); 8% were eligible veterans or veterans' spouses; 1% reported having a disability; 7% were eligible for Pell grant funding; and 3% were workers eligible for trade adjustment assistance (TAA). On average, participants were about 28 years old when they were enrolled ($SD = 9.69$). The ultimate goal of the AMT project was to provide education, training, and services to ensure participant success in education and employment. This report presents findings of the AMT project's implementation and its impact on participants.

A brief description of the project's evaluation design is provided, followed by a summary of implementation findings and impact/outcome findings. Conclusions and recommendations are also provided for future research and evaluation efforts.

Evaluation Methodology

This section provides a brief overview of the conceptual framework and evaluation design, including the formative and summative evaluation components.

Conceptual Framework

The AMT project's design was guided by the career pathways framework of postsecondary education to address the challenge of preparing adult learners (age 18 or older) to complete their program of study and secure high-skilled and high-paid jobs in the field of manufacturing. Specifically, the AMT project team implemented six key strategies to support the grant objectives:

- Strategy 1. Develop comprehensive applied technology curriculum

- Strategy 2. Develop professional development/personnel training
- Strategy 3. Develop multicomponent, evidence-based support strategy
- Strategy 4. Decrease completion time through utilization of technology to enhance accessibility
- Strategy 5. Strategic alignment with partners in education, industry, and workforce
- Strategy 6. Implement job placement and employment follow up

It was hypothesized that, with enhanced curricula incorporating technology components, intensive and individualized student support services, job placement and employment follow up and support, and collaborative partnerships with local partners, the AMT project would be able to provide the training, education, and services needed to support students' educational success (i.e., prevent withdrawals and support program completion) and employment successes (i.e., gain employment, be retained in employment, and receive wage gains).

Evaluation Design

The AMT evaluation contained a formative evaluation component examining the extent to which the project was implemented as intended as well as a summative evaluation component assessing the outcomes of the AMT participants.

Formative Evaluation Questions and Design. Four overarching formative evaluation questions guided by the TAACCCT Round 2 Solicitation for Grant Applications (SGA) are described below:

1. How were the key strategies and activities of the AMT project implemented over the course of the project period?
2. To what extent were the key strategies and activities implemented as planned?
3. What changes were made to the program of study during implementation and for what reasons?
4. To what extent is the AMT model sustainable and transferable?

Specifically, the formative evaluation (1) analyzed the steps taken by the AMT project to create and implement the project (Question 1); (2) assessed the operational strengths and weaknesses of the project (Questions 2 and 3); and (3) examined the sustainability of the project beyond the life of the grant (Question 4).

The focus of the formative evaluation was to document the implementation of the AMT project components to ensure that all of the key elements were being implemented as planned, and to ascertain whether the components are sustainable and transferable (replicable) beyond the life of the grant. To answer these questions, evaluators conducted mixed methods to gather both qualitative and quantitative data from various groups and sources (e.g., project records, interviews, and surveys), and then triangulating the findings. Additionally, fidelity assessments were conducted five times throughout the performance period to understand the extent to which the project components were being implemented with fidelity in terms of adherence, quality, and participant responsiveness (Century, Rudnick, & Freeman, 2010).

Summative Evaluation Questions and Design. To understand the project's impact and outcomes, three summative questions were investigated:

1. To what extent has the AMT project achieved its projected outcomes?
2. To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?
3. How does the AMT project work to support participant outcomes?

These summative questions aimed to understand the outcomes of the AMT project and explore the underlying mechanisms that supported participant outcomes. To address the first question related to the AMT outcomes, evaluators descriptively reported participants' outcomes on the following nine indicators and compared the outcomes against the projected targets:

1. Total Unique Participants Served
2. Total Number Who Have Completed a Grant-Funded Program of Study
3. Total Number Still Retained in Their Program of Study or Other Grant-Funded Program(s)
4. Total Number of Students Completing Credit Hours
5. Total Number of Students Earning Credentials, Diplomas, and Degrees
6. Total Number Enrolled in Further Education After Program of Study Completion
7. Total Number Employed After Program of Study Completion
8. Total Number Retained in Employment After Program of Study Completion
9. Total Number of Those Employed at Enrollment Who Received a Wage Increase Post-Enrollment

To address the second question, evaluators conducted a pre- and post-test design study to understand the extent to which the factors associated with persistence changed from enrollment to program completion. Five persistence factors in particular were examined: (1) collegiate stress, (2) scholastic conscientiousness, (3) academic integration, (4) advising effectiveness, and (5) career integration. The reliabilities of the measures of these persistence factors were acceptable, ranging from 0.59 to 0.82. Data sources to address this question included responses from the Student Entrance Survey and Student Exit Survey. Eighty-nine participants who responded to both the Student Entrance Survey and Student Exit Survey were included in this study.

Lastly, the third question examined the underlying mechanisms through which the AMT project has effected participant outcomes. It was hypothesized that the AMT project (through individualized wraparound student support services [measured by collegiate stress, scholastic conscientiousness, academic integration, advising effectiveness]) would have an effect on participants' sense of career integration that further supported their program completion status. The reliabilities of the measures were acceptable, ranging from 0.62 to 0.84. The primary outcome of interest for this question was program completion status. Given that the proposed hypothetical model was a mediation model, four steps of regression analyses of mediation test suggested by Baron and Kenny (1986) were performed. Data sources to examine this question included extant

data (i.e., participants' educational records) as well as Student Exit Survey data. One hundred and two participants who responded to the Student Exit Survey were included in this study.

Implementation Evaluation Findings

Findings of steps taken by the AMT project to create and implement the project are first summarized (formative question 1), followed by a discussion of the operational strengths and weaknesses of the project (formative questions 2 and 3) and evidence of its sustainability (formative question 4).

AMT Implementation

After triangulating all of the data collected throughout the performance period, findings suggest that all strategies were largely implemented with some modifications. The findings of each strategy are briefly summarized below.

Comprehensive Applied Technology Curricula. During the performance period, nine out of the 20 proposed programs of study were successfully rolled out. Of the nine programs, five have recruited and enrolled unique participants; those programs are: (1) Automotive Technician, (2) CompTIA® A+ Certification¹, (3) CompTIA® Network+ Certification, (4) IM-LI, and (5) Welding. The remaining four programs included participants who had completed the IM-LI program and continued their education with other TAACCCT-funded programs of study, such as: (1) IM-LII, (2) IM AAS, (3) PLC Programmer, and (4) PLC Technician. Of the nine programs, seven offered hybrid courses that allowed students to complete some of the course sessions online and come to campus for the hands-on lab work.

Professional Development and Personnel Training Component. This strategy was fully implemented with some minor modifications during the grant period. Specifically, instead of providing formal training for AMT instructors, UWA hired qualified professionals with existing skills and experience with the lab equipment, technology, and hybrid course delivery. These modifications helped the project to streamline the limited resources and were aligned with the AMT project's objectives and goals. Additionally, coaches received continuous training and technical support from Inside Track regarding the provision of planned student support services. The coaches reported that they are *likely* or *very likely* to be able to incorporate what they have learned during the training sessions into their work with AMT students.

Multicomponent, Evidence-Based Support Strategy. Under this strategy, there were two major components. First, participants received three types of assessments upon enrollment to ensure they have basic skills to be successful in their training, which include the (1) Test of Adult Basic Education (TABE) for certificate program students and the UWA's regular English and math assessments for degree students; (2) ACT® WorkKeys (i.e., job placement assessment); and (3) Sigi3 career assessment. The project was able to administer the TABE as planned, but encountered challenges when implementing ACT® WorkKeys and Sigi3 assessments primarily due to lack of student commitment and time constraints. To overcome these challenges, the project made the completion of the WIN® module a prerequisite before program enrollment to ensure participants pass the cutoff score on the WIN® module before students can take the WorkKeys assessment. Also, instead of implementing Sigi3 assessments with participants to ensure participants' choice of

¹ The CompTIA® A+ Certification was rolled out as an online program in the summer of 2014.

study is aligned with their career goals and interests, the AMT project decided to rely on AMT coaches to ascertain this alignment, and utilize Sigi3 assessments as supplemental information. This modification helped the project team to streamline the limited time and resources while continuing meeting the objectives.

The second component is the individualized and intensive student support services. This component has largely implemented as planned. According to project records (e.g., coaching service logs), coaches had frequent meetings with participants ranging from 0.40 to 3.36 times per student; and had frequent contacts (e.g., email, phone call, hallway talk) ranging from 7.50 to 18.20 times during the performance period (i.e., between October 2012 and September 2015). During these meetings and contacts, coaches consistently engaged participants in conversations about eight different focus areas: (1) academics, (2) finances, (3) school community, (4) commitment to graduation, (5) career choices, (6) effectiveness, (7) managing commitments, and (8) health and support. When coaches had difficulties scheduling meetings with participants, coaches would actively reach out to participants in many ways to ensure students are on track. According to project records, the frequency of outreach ranged from 2.69 to 18.17 times per student during the performance period.

Utilization of Technology to Enhance Accessibility. This component was largely implemented at the end of the grant. Specifically, the AMT project offered programs through a hybrid model and at multiple locations which provide flexibility for students in terms of scheduling and locations.

Strategic Alignment with Partners in Industry, Education, and Workforce. Throughout the course of the grant, 11 advisory board meetings were held, with more intensive meetings occurring during the first two years of the grant. Additionally, AMT staff met with the existing project partners and potential partners both formally and informally to discuss the planning and implementation of job placement services as well as plans for sustainability.

Job Placement and Employment Follow-up Components. During the performance period, the project offered a variety of job placement services in both one-on-one and group formats, most of which related to preparing candidates for the job search process. Experiential learning opportunities were also offered by the partners. The delivery of employment follow-up services, however, was limited due to difficulties in getting in touch with students after they have left their programs of study.

Implementation Fidelity

Three aspects of project implementation were examined: (1) adherence, (2) quality, and (3) participant responsiveness. A close examination of the AMT project's implementation structures and processes revealed that its strategies were largely implemented as planned with some modifications. Findings from each aspect of the project's implementation are summarized below.

Adherence of Implementation. Twenty-seven adherence indicators were identified from the Project Work Plan as the basis for determining the extent to which the project activities were implemented as planned (adherence). Results revealed that the project was at the 79th percentile in terms of full implementation by the end of grant Year 3, an overall 28-percentage-point increase since fall 2013 (beginning of grant Year 2). Across all six project strategies, two have been fully implemented: Strategy 2 (Develop the professional development/personnel training) and Strategy 5 (Strategic alignment with partners in industry, education, and workforce), even though each strategy

involved some minor modifications from the work plan. The remaining four strategy areas were only partially implemented due to challenges and various reasons. See below for brief descriptions of why certain components were not fully implemented, including Strategies 1, 3, 4, and 6, and why some minor modifications were made to Strategies 2 and 5 to ensure full implementation.

- **Strategy 1 - Develop Comprehensive Applied Technology Curricula:** The project rolled out a total of nine out of 20 programs of study by the end of grant Year 3; as a result, the level of implementation was at the 65th percentile. Yet of most importance is that the programs being delivered were identified by the partners as key programs that are meeting their needs and demands.
- **Strategy 2 - Develop a Professional Development and Personnel Training Component:** This component was fully implemented by the end of Year 3, mainly due to the UWA strategically hiring instructors during the project's early stages of implementation who were already experienced with the technology and equipment being utilized in the new programs of study, which helped to offset the needs for professional development. When additional training for some of the new pieces of equipment was needed, the project collaborated with the vendors to provide the training in a timely manner.
- **Strategy 3 - Develop a Multicomponent, Evidence-Based Support Strategy:** At the end of Year 3, this strategy was at the 50th percentile in terms of implementation and included two key components: assessments and individualized student support services. While the individual student support services component has been fully implemented, those areas related to the assessments have not been implemented as planned. Specifically, the low level of implementation has been primarily due to challenges faced in administering the ACT[®] WorkKeys and Sigi3 assessments. It is important to note that during the T2 (utilizing data collected between January and June 2014) and T3 (utilizing data collected between July and December 2014) fidelity assessments, Strategy 3 was at the 80th percentile in terms of implementation. However, beginning in January 2015, project staff started having difficulties administering the ACT[®] WorkKeys assessment because students need to complete the WIN[®] module prior to taking the WorkKeys assessment. To solve this issue, project staff are planning to make the completion of the WIN[®] module a prerequisite starting in Fall 2015 so that all students must complete the module before their program starts and will be ready to take the ACT[®] WorkKeys while enrolled in their program of study. Project staff also decided to strategically replace the Sigi3 assessment, mainly due to time constraints, with an interview assessment that coaches would complete with each participant during the intake process.
- **Strategy 4 - Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility:** This strategy was at the 75th percentile in terms of full implementation as of the end of Year 3. Primarily, the reason that full implementation has not been achieved is due to challenges in getting students to complete the online WIN[®] module on their own time (i.e., lack of commitment). As discussed under Strategy 3, starting in Fall 2015, students will be required to complete the module as a prerequisite before their program starts. All other components related to this strategy were implemented as planned, such as programs being offered at multiple locations (offerings were held at three sites) and courses being delivered via a hybrid mode (a total of 25 hybrid courses were offered across nine programs of study).

- **Strategy 5 - Align Strategically with Partners in Industry, Education, and Workforce:** This strategy was fully implemented by the end of grant Year 3. The main achievement under this strategy is that the project not only maintained the existing partners but also cultivated new partnerships to support the project's success in the areas of curriculum development, participant recruitment, marketing and outreach, and job placement services.
- **Strategy 6 - Implement Job Placement and Employment Follow-up Components:** By the end of Year 3, this strategy was at the 75th percentile in terms of full implementation. The primary reason that full implementation was not achieved is due to challenges experienced in reaching out to program graduates, which made it difficult to deliver follow-up services. One of the main drivers for the provision of follow-up services is the need to gather student employment and wage data for reporting purposes to the DOL. Once AMT project staff realized the challenges in contacting students after they have exited their program, staff members began reaching out to the Alabama Department of Labor, through the assistance from an educational partner, to investigate the possibility of securing participants' employment and wage data from the workforce database instead. The data sharing agreement between the UWA and the Alabama Department of Labor was successfully established in grant Year 3. This collaboration also serves as an example of the project team's efforts to develop partnerships with workforce agencies in support of the AMT project's success.

Quality of Implementation. McREL evaluators identified 28 quality indicators from the Student Exit Survey (20 indicators) and Partner Survey (eight indicators) to assess the quality of project implementation. Based on the survey data, two index scores were calculated to present students' and partners' overall perceptions of implementation quality. Overall, from the student perspective, the AMT project strategies were implemented with quality, and the quality ratings increased gradually over the course of the grant period with the index score percentages being 65%, 79%, 79%, 77%, and 87% in T1 (December 2013), T2 (June 2014), T3 (December 2014), T4 (June 2015), and T5 (September 2015), respectively. Although, there were some variations in terms of quality across different strategies. Specifically, the quality ratings were higher in the area of professional development/personnel training (Strategy 2; the T5 quality index percentile was 100%); comprehensive applied technology curricula (Strategy 1; the T5 quality index percentile was 90%); and multicomponent, evidence-based support strategy (Strategy 3; the T5 quality index percentile was 91%). Comparatively, the quality ratings were somewhat lower in the areas of utilizing technology to enhance accessibility (Strategy 4; the T5 quality index percentile was 77%) and job placement and employment follow-up component (Strategy 6; the T5 quality index percentile was 60%).

From the partner perspective, the quality of implementation of the AMT project is acceptable, with the overall quality index score percentile being 74% and 75% in T1 and T4, respectively.² Comparatively, one area received lower ratings during the T4 assessment (the quality index percentile was 60%). The lower rating for this component may be attributed to the fact that partners have less direct involvement in that aspect of project implementation other than some contact with students through experiential and job placement services.

Participant Responsiveness to Implementation. Evaluators identified eight participant responsiveness indicators from the Student Exit Survey and six indicators from the Partner Survey

² Employer survey was administered two times that were fallen during the T1 and T4 assessment timeframe.

to assess participants' and partners' responses (i.e., satisfaction and enthusiasm) toward the AMT project's implementation. Based on the survey data, two index scores were calculated to present students' and partners' responses to implementation. The overall participant responsiveness index score percentile from students was 74%, 93%, 88%, 88%, and 93% in T1 (December 2013), T2 (June 2014), T3 (December 2014), T4 (June 2015), and T5 (September 2015), respectively. The ratings were consistently high in all areas; yet, comparatively, the ratings were slightly lower in the area of job placement and employment follow-up components (Strategy 6; the T5 participant responsiveness index percentile was 80%). From the partner perspective, their engagement in and satisfaction with the AMT implementation was generally high. The overall participant responsiveness index percentile was 75% and 82% in T1 and T4, respectively.

Taken together, the primary strength of the project in terms of implementation was that the project largely adhered to its original plan and also implemented the elements and activities with high quality based on participants and partners, especially in the area of curriculum design (Strategy 1), professional development/personnel training (Strategy 2), and multicomponent student support services (Strategy 3). These efforts led to continuous engagement and satisfaction from both partners and participants. Comparatively, the project seemed to be a little weaker in the area of job placement and follow-up component (Strategy 6); yet, the overall ratings in terms of quality and participant responsiveness were still high and acceptable.

Modifications

The project team has made some changes to the AMT program structure and implementation throughout the life of the grant, including modifying the rollout dates for the programs of study; revising the developed curricula to align with partners' needs; leveraging existing resources to support or expand the provision of services and training; modifying the plan to administer assessment components to overcome the challenges related to students' lack of commitment and time constraints; modifying class delivery methods to accommodate students' schedules; and leveraging partners and their available resources to support service delivery. All of these changes constitute a concerted effort to accommodate program stakeholders and support the project's objectives and goals.

Sustainability and Transferability

AMT project staff have been actively engaging partners and institutional leaders in discussing and planning for sustainability in grant Year 3. During the interviews held in the spring of 2015, project staff shared that they have done some preliminary planning for sustainability and have implemented several strategies to ensure that the program can continue beyond the life of the grant. For instance, given that the AMT certificate programs are industry-driven and have been designed to meet local industry needs, the demand for programs of study like those offered through the AMT program will continue after the end of the grant. With regard to the provision of professional development and personnel training, project staff have been successful in collaborating with the equipment vendors to provide no-cost training for instructors and utilizing existing resources at the UWA to provide technology training, which will continue to be accessible to instructors after the grant ends. Additionally, project partners have committed to continue their support of the AMT programs beyond the life of the grant through providing internships, leveraging resources, and continuing to participate in the advisory board. At the time of this report, the sustainability of certain elements is uncertain as they require extra funding, such as the individualized student support

services, job placement services, and follow-up services. Project staff are actively pursuing additional funding opportunities to continue these services as the implementation performance period ends in March 2016.

To support the transferability of the AMT programs, project staff have been consulting with high schools and community colleges in order to transfer the knowledge gained and help them implement similar programs. Overall, staff members were optimistic that the project components are replicable by noting, “We have an excellent model and an excellent product that surely we could sell to other grant programs.” Additionally, project staff suggested that the AMT project can expand its reach, grow, and be sustainable by allowing students to transfer credits from similar programs or by partnering with schools that already have similar programs in place.

Summative Evaluation Findings

This section presents findings of the impact and outcome evaluation. The project outcome findings, including the nine outcomes articulated in the SGA, are discussed first, followed by the discussion of impact evaluation findings.

Participant Outcomes

The overall project outcomes as compared to the projected outcomes are presented in table below.

	Outcome Measures	AMT Outcomes	Performance Targets
1	Total unique participants served	228	245
2	Total number of participants who have completed a TAACCCT-funded program	130	81
3	Total number of participants still retained in their program of study or another TAACCCT-funded program	0	--
4	Total number of participants completing credit hours	162	193
5	Total number of participants earning credentials	130	182
6	Total number of participants enrolled in further education after grant-funded program of study completion	44	40
7	Total number of participants employed after grant-funded program of study completion	2	81
8	Total number of participants retained in employment after program of study completion	1	81
9	Number of participants employed at enrollment who received a wage increase post-enrollment	15	27

Overall, the number of participants recruited was slightly under the performance target (93th percentile in terms of meeting the performance target). To compare the AMT’s outcomes with the performance targets, percentages were calculated to put the numbers into perspective. It should be noted that, as shown in the table, McREL evaluators were unable to determine if the AMT project has met the outcome of number still retained (outcome measure 3). When the proposal was written, it was anticipated that the retention rate would increase 15% throughout the grant; however, there was no information about the retention rate before the grant. Hence, there is no projected number for this outcome. For the AMT project, none of the grant participants were retained at the end of

the grant as participants either exited UWA with a certificate (57%; $n = 130$) or they left without a certificate (43%; $n = 98$). Throughout the grant, 21, 42, 46, and 0 participants were retained as of the end of grant Year 1, Year 2, Year 3, and Year 4, respectively. In all, the project only met one performance target:

- **Outcome Indicator #2:** 57% (130 out of 228) of the participants completed a grant-funded program of study as compared to the target of 33% (81 out of 245) by the end of the grant.

The project did not meet the performance targets for the following outcomes:

- **Outcome Indicator #4:** 71% (162 out of 228) of the participants earned credits, ranging from three to 54 credits, in comparison to the target of 79% (193 out of 245). A total of 3096 credits were completed by the grant participants.
- **Outcome Indicator #5:** 57% (130 out of 228) of the participants earned at least one credential which was 17 percentage points lower than the target of 74% (182 out of 245). Of those, 31% (40 out of 130) earned two or more certificates.
- **Outcome Indicator #6:** 34% (44 out of 130) of the program completers enrolled in further education (TAACCCT grant funded or not) as compared to the target of 49% (40 out of 81). It should be noted that this number may be underestimated because with limited resources, AMT program staff were only able to track participants who continued their education with UWA; hence, it is unknown how many participants enrolled in other postsecondary education institutions after program completion.
- **Outcome Indicator #7:** 2% (2 out of 130) of the program completers gained employment during the first quarter after exiting their program of study in comparison to the target of 100% (81 out of 81). It should be noted that this outcome is underestimated for two reasons. First, although the AMT project established a data sharing agreement with the Alabama DOL, the data provided did not specify date of employment; hence, evaluators were unable to identify employment status per the DOL's definition within the specific timeline (e.g., participants can only be counted if they were employed during the first quarter after the exit quarter). Therefore, evaluators have to rely on the employment and wage data collected by project staff based on student self-report. However, such data are still limited given that the AMT project staff were only able to track down a small number of program completers and follow up on their employment status after program exit. Second, there is time lag between when the employment and wage data are available and when the report is completed. When this report was prepared, 16 participants completed their program of study during the last quarter of the grant Year 4. There was insufficient time to track employment outcomes for these students.
- **Outcome Indicator #8:** 50% (1 out of 2) of the participants who gained employment were retained as compared to the target of 100% (81 out of 81). As discussed in Indicator #7, this outcome is underestimated given the fact that the data needed for this outcome were not available when this report was prepared. In fact, 47 participants completed their program of study between the second quarter and fourth quarter of the grant Year 4. There was insufficient time to track data to determine their retention in employment status.

- **Outcome Indicator #9:** 7% (15 out of 228) of the participants received wage increases after becoming enrolled in a TAACCCT-funded program of study in comparison to the target of 11% (27 out of 245). Yet, it should be noted that, per the DOL, the estimation should be based on the number of incumbent workers who received wage increases after enrollment. The DOL's definition would result in 14% (15 out of 110) of the incumbent workers receiving wage increases. However, there is no information available about the number of projected incumbent workers in the project narrative; therefore, McREL evaluators are unable to compare the performance target with the actual outcomes with the more accurate estimation based on the DOL definition.

Project Effect on Persistence Factors

A pre- and post-test design was conducted to understand the extent to which the AMT project may have increased or changed the factors associated with persistence. Five persistence factors were examined: (1) collegiate stress, (2) scholastic conscientiousness, (3) academic integration, (4) advising effectiveness, and (5) career integration. Findings revealed that persistence factors remained stable and unchanged statistically from enrollment to program completion with one exception. That is, AMT participants' ratings on items related to career integration decreased significantly from program enrollment to program exit. Further examination of the study sample revealed that the majority of the sample (80%) were program completers. The null findings may be because this sample was overrepresented by a group of individuals who had more positive experiences with the program since enrollment. However, it did not explain why participants' perception of career integration decreased from enrollment to program exit; yet, it should also be noted that survey participants gave high ratings on career integration items when they first enrolled in the AMT programs (mean score was 4.63 and 4.46 at enrollment and at program exit, respectively, on a 5-point scale). Further investigation is encouraged given that career integration has been found to be an essential factor supporting students' success in career and technical education (Bremer et al., 2011).

Career Integration as a Mediator

A mediation model was examined to investigate the underlying mechanisms through which the AMT project may exert its influence on participants' program completion status. It was hypothesized that the AMT project may have an effect on participants' educational outcomes through its wraparound student support services by increasing participants' sense of career integration. Four steps suggested by Baron and Kenny (1986) were performed to test the mediation effect. Results indicated that there was no evidence to suggest that career integration is a mediator linking the AMT project's effects on participants' program completion status; yet, student perception of academic integration, a measure of individualized wraparound student support service, was a significant predictor of program completion status. Academic integration measures student perceptions of instructional quality (i.e., how would you rate the quality of the instruction you are receiving here?). Within the AMT strategies, coaches communicated with instructors regularly regarding students' progress and ensure students have support needed to stay on track and complete their program. The positive association between academic integration and participants' program completion status suggests that the intensive student support service model may be a key mechanism that makes a difference.

However, with regard to why the program effect was not mediated by participants' sense of career integration, there may be two possible explanations. The first explanation is that, while the reliability of career integration is acceptable (Cronbach's alpha = 0.70), it is unclear if this scale measures what it intends to measure (i.e., validity). With limited resources, evaluators were unable to establish the validity of the scale; as such, further research is encouraged to investigate what constitutes career integration and validates the scale. The second possible explanation is that, career integration assessing participants' sense of the extent to which their program of study has prepared them to be ready (in terms of knowledge and skills) for jobs in the manufacturing field, as well as ascertaining their commitment to secure those positions; hence, career integration might be a predictor of participants' employment outcomes (gain employment) rather than program completion per se. However, the investigation of this hypothesis was not possible within this evaluation given data limitation.³ Future research is highly encouraged.

Conclusions

The AMT project was not implemented without challenges. According to the findings of the fidelity assessment, the AMT project was at 79th percentile in terms of full implementation by the end of grant Year 3 demonstrating an overall 28-percentage-point increase since fall 2013 when the first fidelity assessment was conducted. The AMT project was 21-percentage-points below the full implementation primarily due to challenges in three areas that required the AMT team to make modifications and adjustments. The first challenge was to offer the programs that fill the skills gap of local workforce and meet the needs of local industry. As a result of the needs assessment, the AMT project focused on actively recruiting participants in programs that meet the urgent needs of the local industry partners; hence, the AMT project rolled out nine programs instead of 20 programs that were originally proposed. The second challenge was to administer the assessments (i.e., ACT[®] WorkKeys assessment, and Sigi3 assessment) with participants. The project team had to modify the process (e.g., made WIN[®] module as prerequisite during enrollment; replace Sigi3 assessment by individual interview during intake process) to ensure that the objectives were made while making modifications. The third challenge was related to employment follow up services. Specifically, AMT project staff had difficulties reaching out to program participants once they left the UWA. This area has been a key challenge since project inception and has continued throughout the grant. As a result of the challenge, the AMT project team dedicated their energy and resources to establish a data sharing agreement with the Alabama Department of Labor to secure participants' employment and wage data. With a Round 1 TAACCCT grantee's assistance, the AMT project established the data sharing agreement in grant Year 3.

Results of the fidelity assessments suggest that the AMT project team worked as a unit to identify issues, streamline resources, and establish procedures to overcome the barriers as issues arose. The efforts put forth by the AMT Alliance paid-off as evidenced by the findings of the fidelity assessment—project strategies were implemented with quality and participants and partners were satisfied with the project's implementation and felt engaged. When looking at project outcomes, although the project did not meet the targets on seven outcomes, the shortcomings were primarily due to the limitation of data availability. Nevertheless, evaluators were unable to find positive effects on other aspects (i.e., supporting persistence factors, or supporting the mediation effect of career

³ The AMT project collected participants' employment data from various sources, including workforce partner (e.g., Alabama Department of Labor), student self-report, employment attestation. Per the DOL's definition, the project was not required to collect information regarding employment industry; hence, it is unclear how many participants were employed in the manufacturing fields.

integration); yet, it should be noted that the null findings were partially due to data limitations. In fact, although there is no statistical evidence to explain how the AMT project works to support participant success, anecdotes collected from project staff and partners reveal some promising features of the AMT project. For instance, during interviews, AMT project staff indicated that the positive relationships between students and their coaches through the project's hands-on approach to coaching have been a significant motivating factor. Second, coaches and faculty members made themselves accessible to students in various means to ensure students have the support (personal or academic) needed to succeed.

Several lessons learned from the evaluation of the AMT project are summarized below. Recommendations are made accordingly to guide the direction of research and evaluation in the future research and technical education initiatives.

- **Low survey response rates from participants and employers made evaluation findings less generalizable.** Despite efforts to try various methods to secure higher response rates (e.g., shortening the survey, having coaches go to the classrooms to distribute the surveys), response rates tended to be low. Low response rates made the interpretation of the findings difficult and potentially biased (i.e., it is possible that participants who had more positive experience with the project were more likely to respond to the survey), and less generalizable to the AMT program participants. It is recommended for future initiatives to allow evaluators and grantees to use incentives to secure a higher response rate.
- **Projected outcomes that were included in the grant application were frequently unrealistic and made it challenging to meet the performance targets.** This appears to be primarily due to a lack of understanding about the definitions of the indicators when grantees prepared their proposals and those with familiarity or knowledge of realistic targets were not involved in the grant-writing process. The SGA provided some initial descriptions of the outcome indicators, but greater detail provided in future SGAs may result in more realistic projections.
- **Insufficient time to track employment outcomes made it challenging to provide an accurate picture of the employment outcomes (e.g., gained employment and retained in employment).** Per the DOL's definition, it requires at least nine months to track participants' employment outcomes (i.e., whether gained employment or not within the first quarter after the exit quarter; whether retained employment or not within the second and third quarters after the exit quarter). As a result, employment data for participants who completed their program of study near the end of grant Year 3 and grant Year 4 are often unavailable when the report is prepared. This issue was often overlooked when the proposal was prepared. For future effort to understand the effect of career and education training initiatives in postsecondary education, it may be more appropriate to extend the project timeline from four years to five years. This would allow grantees to have sufficient time to not only implement the project but also collect data needed to inform project outcomes. Additionally, it may be more appropriate to measure gained employment as being employed during the exit quarter given that many participants may gained employment right after, or even right before program completion as a result of experiential learning opportunities that were offered through

the grant (e.g., paid or unpaid internship). This revised measure will also shorten the timeframe required to track the retained employment outcome.

- **No need to track whether participants were employed and retained in employment in the field in which they were trained made the evaluation of project effect on employment outcomes less meaningful.** Per the DOL's definition, participants can be counted as gained employment and retained in employment as long as they were employed regardless of the industry. This definition does not provide a real picture of how the project has helped the participants gain the skills and knowledge needed to secure a job and be retained in the industry in which they were trained. It is recommended to revise the definition of employment outcomes to better describe the project effect on participants' employment outcomes.
- **Peer learning is valuable.** As an organization that is evaluating more than one TAACCCT grant, it has been advantageous to build upon economies of scale. Internally, McREL evaluators have learned from each other's projects and used common evaluation methods and scales. It would have been valuable to have all TAACCCT grant evaluators convene for at least one national meeting as proposed in the SGA. These types of meetings would have built a community of learners that would have permitted each of us to share what was learned with the evaluations, discuss instruments and processes, as well as facilitate networking with one another.

Chapter 1: Introduction

In October 2012, the University of West Alabama (UWA) was awarded a Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant from the U.S. Department of Labor (DOL) to expand and improve career training programs in manufacturing fields. Over the past four years, the initiative, titled the Applied Manufacturing Technology (AMT) project, expanded the university's existing programs as well as developed new programs to provide comprehensive and customized industrial training to prepare high-skilled workers in high-paid manufacturing jobs. This chapter first provides an overview of the AMT project, followed by a brief description of the evaluation questions and designs.

Overview of the AMT Project

Changes in the U.S. labor market due to factors such as technological innovation and globalization require a better-prepared workforce equipped for success in an evolving industrial landscape (Carnevale, Smith, & Strohl, 2010). As the demand for personnel with higher education and skill levels continues to grow, individuals frequently need some form of postsecondary education to be competitive in the workplace and maintain family-sustaining employment (Carnevale et al., 2010; Hoffman & Reindl, 2011).

To join this effort, UWA, a state-supported institution of higher learning located in Livingston, utilized the funding from the TAACCCT grant to create and develop programs in advanced manufacturing technology fields to serve eight counties (Choctaw, Dallas, Greene, Hale, Marengo, Pickens, Sumter, and Wilcox) in Alabama's Black Belt region (see Figure 1). Through the AMT project, UWA collaborated with local workforce agencies and industry partners to provide specialized postsecondary education and wrap-around services to Trade

Adjustment Assistance (TAA) and similar adults to advance their career paths in the manufacturing industry. The AMT project served a total of 228 participants in Alabama's Black Belt region as a result of the TAACCCT grant. The AMT project was an important workforce initiative for the region, where some counties already suffer from low educational attainment, high rates of poverty, and high unemployment rates (some counties have unemployment rates as high as 15%). Most importantly, the residents of the Black Belt region have limited access to higher education opportunities. Therefore, in an area where inhabitants rely on the specific job opportunities created and provided by local employers, the AMT initiative provided comprehensive, customized industrial training to prepare high-skilled workers for high-wage manufacturing jobs.

The AMT project was specified by six key components designed to support project goals, ultimately preparing participant to be successful in education and employment (see Table 1). Figure 2 presents a logic model displaying the pathways in the project's theory of action.



Figure 1. UWA AMT Service Area

Evaluation Questions

Within the context of the TAACCCT grant's overall evaluation strategy, the AMT project evaluation addresses both formative and summative questions. As such, in addition to examining the extent to which the project goals were met and outcomes were achieved (i.e., summative evaluation), the AMT project's evaluation also examined questions related to its implementation—the structural and procedural fidelity of program implementation. This section briefly describes the evaluation questions being explored.

Summative Evaluation Questions

Within the context of TAACCCT's overall evaluation strategy, the AMT project's summative evaluation addressed the three questions described below:

1. To what extent has the AMT project achieved its projected outcomes?⁴
2. To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?⁵
3. How does the AMT project work to support participant outcomes?

The aim of the summative evaluation was to (1) understand the extent to which the AMT project has achieved its projected performance targets (Question 1), and (2) explore the underlying mechanism through which the project impacted participants (i.e., how and what works to support participant success in education and employment) (Questions 2 and 3).

Formative Evaluation Questions

Four overarching formative evaluation questions guided by the TAACCCT Round 2 Solicitation for Grant Applications (SGA) are described below:

1. How were the key strategies and activities of the AMT project implemented over the course of the project period?
2. To what extent were the key strategies and activities implemented as planned?
3. What changes were made to the program of study during implementation and for what reasons?
4. To what extent is the AMT model sustainable and transferable?

The formative evaluations (1) analyzed the steps taken by the AMT project staff to create and implement the AMT elements (Question 1), (2) assessed the project's operational strengths and weaknesses (Questions 2 and 3), and (3) examined its sustainability beyond the life of the grant (Question 4). Under each question, several subquestions were also examined to describe the operation of the AMT project and address questions specified in the TAACCCT SGA.

⁴ This question was revised from the original evaluation plan given that the evaluation design was changed from quasi-experimental design with a comparison group to a single-group pre- and post-test design which did not allow McREL evaluators to examine project impact; hence, the question focused on the extent to which the project has made its projected performance outcomes.

⁵ This question was revised from the original evaluation plan given the changes made to the student surveys over the implementation period. Specifically, evaluators shortened the survey to encourage completion by participants; therefore, items and constructs deemed to be less relevant to the target population (i.e., adult learners) were taken out.

Project Framework

The AMT project's design is based on the career pathways framework of postsecondary education to address the challenge of preparing adult learners (age 18 or older), especially individuals in need of advanced training, to secure high-skilled and high-paid jobs in the field of manufacturing. Career pathways, by definition, are “well-articulated sequences of quality education and training offerings and supportive services that enable educationally underprepared youth and adults to advance over time to successively higher levels of education and employment in a given industry sector or occupations” (Center for Postsecondary and Economic Success at CLASP, 2013). A career pathways approach offers a clear sequence of coursework and training credentials that support individuals' career goals and paths while meeting the needs of local employers and growing sectors and industries (Kozumplik, Nyborg, Garcia, Cantu, & Larsen, 2011). Often, a career pathways program also requires a partnership with local partners (e.g., human services, workforce agencies, and industry partners) in order to provide comprehensive services to the targeted populations (Center for Postsecondary and Economic Success at CLASP, 2013; Fein, 2012; Kozumplik et al., 2011).

Presented in Figure 2 is a logic model (i.e., a theory of action) of the career pathways framework as implemented in the AMT project and used to conceptualize the formative and summative evaluation designs. In particular, the logic model presents a theory of action describing the connections between resources required to carry out the project, the strategies that are guided by the career pathways framework to support student success, the expected output as a direct result of the strategies, the mediator that explains the underlying mechanisms through which the project exerts its influence on participants, and the main outcome of interest of the AMT grant. The following sections of this chapter provide an overview of the project framework as depicted in the logic model. Other factors, including contextual factors and participant characteristics that are not shown in the logic model but may be associated with the outcomes are also discussed.

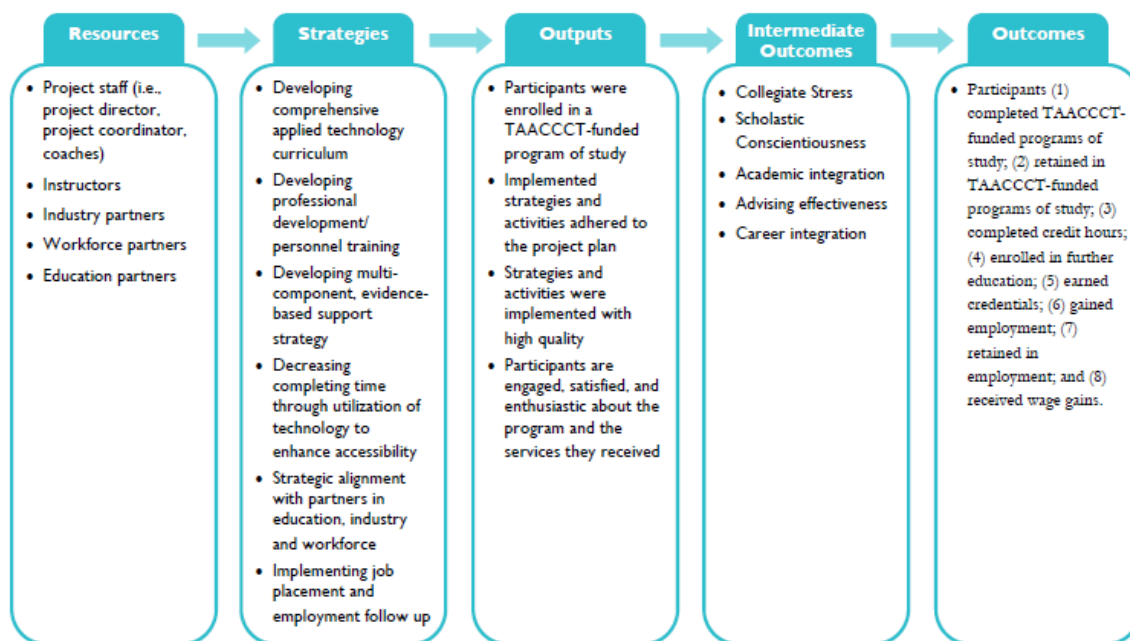


Figure 2. AMT Project Logic Model

Resources

The AMT project was led by a project director who oversees the entire grant in terms of project implementation and budgeting. Under the project director, a project coordinator was hired to manage the day-to-day operations of the AMT project. There were also several other grant-funded positions, including coaches and instructors, who contributed to the implementation activities of the AMT grant. Additionally, the AMT project had an advisory board that provides insight to guide the program design and implementation. Industry, workforce, and community partners were also key resources who contributed to the grant in multiple ways and to varying degrees, particularly in curriculum development, participant recruitment, leveraging of resources, and sustainability planning.

Strategies

The AMT project embodied several core components guided by the career pathways framework (Kozumplik et al., 2011). Table 1 provides an overview of the project strategies and activities that were designed to support the success of the project.

Table 1. AMT Project Strategy Overview

AMT Project Strategies and Activities
Strategy 1. Develop Comprehensive Applied Technology Curriculum • Develop stackable and latticed certificate and degree programs • Establish technological infrastructure • Create well-equipped classrooms and laboratories • Develop individual hybrid courses
Strategy 2. Develop Professional Development/ Personnel Training • Provide training to instructors, as needed, include (1) curriculum training, (2) technology training, (3) competency-specific technology training, and (4) hybrid course training (i.e., blended learning) • Provide a comprehensive training for coaches who provide advising and counseling services for participants
Strategy 3. Develop Multi-Component, Evidence-based Support Strategy • Conduct student assessment upon enrollment, such as Sigi3 career assessment, to place students in programs aligned with career goals and interest. • Conduct student assessment, such as Test of Adult Basic Education (TABE) and ACT® WorkKeys, to ensure students have basic skills to be successful in the program. • Conduct prior learning assessment with participants who had extensive field experience. • Provide individualized student support to ensure student retention and success in education and employment
Strategy 4. Decrease Completion Time Through Utilization of Technology to Enhance Accessibility • Provide flexible scheduling • Provide training in multiple sites • Develop hybrid courses
Strategy 5. Strategic Alignment with Partners in Education, Industry, and Workforce • Develop and cultivate partnerships with local employers and workforce partners • Involving industry, education, and workforce partners in the advisory committee • Collaborate with industry partners to provide experiential learning opportunities for AMT participants
Strategy 6. Implement Job Placement and Employment Follow Up • Continue to providing counseling services for graduates for one year following program completion to ensure that they are properly placed in employment • Establish long-term relationships with partners to support program sustainability

It should be noted that, depending on the program track and course requirements, not all participants were exposed to all of the components described above. For instance, only some participants who took hybrid courses would experience that aspect of the program. Regardless, all of these strategies aimed to ensure that the AMT project offered technology and program curricula that met the needs of individuals as well as local industries. Of all the project elements, Strategy 3 (Develop multi-component, evidence-based support strategy) and Strategy 6 (Implement job placement and employment follow up) were expected to be implemented consistently with all participants. Strategy 5 (Strategic alignment with partners in education, industry, and workforce) and Strategy 6 (Implement job placement and employment follow up) focused on establishing partnerships with local industry, workforce, and community partners to build a solid foundation for sustainability and, most importantly, to provide networking opportunities for AMT participants to connect with local employers and possible job placements. For working learners, Strategy 5 also aimed to provide opportunities for skills building and career advancement that may assist those participants in obtaining a wage increase.

Outputs

Outputs are defined as the direct results of the AMT project's strategies. Specifically, it was expected that (1) the project would recruit a total of 245 participants, (2) all of the components would be in place by the end of the performance period, (3) implementation would adhere to the Project Work Plan, and (4) the quality of implementation, as well as participants' response and engagement in these services, would be high, as they are what matters the most to ensure students' success. Therefore, the focus of the implementation evaluation is not only to document the implementation of key strategies, but also evaluate the quality and participant responsiveness (e.g., satisfaction, engagement, and enthusiasm) to the outputs. The assessment of the AMT project's outputs was guided by the fidelity assessment framework suggested by Century et al. (2010). Methods to assess the fidelity of implementation are discussed further in Chapter 5: Formative Evaluation Design and Analysis Plan.

Intermediate Outcomes

The target population for the AMT project is adult learners who often encounter multiple barriers and challenges to persistence and retention (Chao, 2009). Empirical studies have identified many variables associated with persistence (Bremer et al., 2011; Davidson, Beck, & Milligan, 2009; Reason, 2009). To assess persistence factors associated with student support services, McREL evaluators used four constructs developed by Davidson et al. (2009): (1) collegiate stress, (2) scholastic conscientiousness, (3) academic integration, and (4) advising effectiveness. Collegiate stress measures students' sense of pressure and stress regarding their academic responsibilities (e.g., how often do you feel overwhelmed by the academic workload here?). Scholastic conscientiousness assesses students' attitudes and behaviors toward their learning responsibilities (e.g., how often do you arrive late for classes, meetings, and other college events?). Academic integration measures student perceptions of instructional quality (e.g., how would you rate the quality of the instruction you are receiving here?). Advising effectiveness assesses students' perception of advising services they have received from faculty members (e.g., how satisfied are you with the academic advising you receive here?).

Additionally, in collaboration with the experts who study persistence and retention within community college settings, McREL evaluators developed a scale to assess participants' sense of

career integration as a result of grant participation. Specifically, career integration measures participants' sense of the extent to which their program of study has prepared them to be ready (in terms of knowledge and skills) for jobs in the manufacturing field, as well as ascertaining their commitment to secure those positions. Career integration has been found to be an important factor predicting student persistence within community college settings, especially within career and technical training programs (Bremer et al., 2011).

It was hypothesized that the AMT project (through individualized wraparound student support services [measured by collegiate stress, scholastic conscientiousness, academic integration, advising effectiveness]) would have an effect on participants' sense of career integration that further supported their program completion status.

Outcomes

As part of the AMT project's summative evaluation, eight outcome measures specified by the DOL as grant performance indicators, in addition to the recruitment number described under Output 1, were evaluated by McREL staff (see Table 1).

Table 1. AMT Project Outcome Measures and the Performance Targets

Outcome Measures		Performance Targets
1	Total unique participants served	245
2	Total number of participants who have completed a TAACCCT-funded program	81
3	Total number of participants still retained in their program of study or another TAACCCT-funded program	-- ^a
4	Total number of participants completing credit hours	193
5	Total number of participants earning credentials	182
6	Total number of participants enrolled in further education after grant-funded program of study completion	40
7	Total number of participants employed after grant-funded program of study completion	81 ^b
8	Total number of participants retained in employment after program of study completion	81 ^b
9	Number of participants employed at enrollment who received a wage increase post-enrollment	27

Note. Indicators listed in this table are slightly different from the indicators reported in the Annual Performance Report (APR), instead, they were specified in the program narrative with set performance targets.

^a. In the program narrative, it was estimated that the retention rate would increase 15%. However, it was unknown what the retention rate was before the grant; hence, there was no way to compute the projected number.

^b. In the program narrative, it was estimated that 83 participants would be employed; however, per the DOL's definition, participants can only be counted as employed when they completed at least one program of study. Therefore, for the evaluation purpose, McREL evaluators re-set the target as 81.

Definitions of each outcome and their projected targets are described below. It should be noted that when comparing the results against the projected targets, percentages were calculated to allow for these comparisons to occur from a better perspective. For instance, if the AMT project recruited a lower number of participants than what was projected, the percentage of participants who complete a program of study is calculated and is used to compare against the projected percentage to avoid underestimating the project's performance in reaching the anticipated outcomes.

In addition, it should be noted that the denominators used to calculate the percentages differ depending on the definition of each indicator.

- **Total Number Who Have Completed a Grant-Funded Program of Study:** Total number of unique participants who completed any grant-funded program. Completion is defined as having earned all of the credit hours needed for the award of a degree or certificate in that program of study regardless of graduation status. Participants were only included once, even if they completed multiple programs of study. The AMT project anticipated that 33% (81 out of 245) of the grant participants would complete a TAACCCT-funded program.
- **Total Number Still Retained in Their Program of Study or Other Grant-Funded Program(s):** Of the total number of unique participants enrolled who have not completed their programs, the total number of enrollees who are still enrolled either in their original program of study or a different grant-funded program of study at the end of the performance period. In the program narrative, the AMT project anticipated that the retention rate would increase 15%; however, there was not information about the retention rate before the grant. Hence, there is no projected number for this outcome.
- **Total Number of Students Completing Credit Hours:** Number of students who have enrolled and completed any number of credit hours. The AMT project anticipated that 79% (193 out of 245) of the grant participants would complete at least some credit hours.
- **Total Number of Students Earning Credentials, Diplomas, and Degrees:** Total number of students who earned certificates (including industry-recognized credentials), diplomas, or degrees. A student can be counted only once in this field even if multiple certificates, diplomas, or degrees were earned by that student. The AMT project anticipated that 74% (182 out of 245) of the grant participants would earn credentials, diplomas, or degrees.
- **Total Number Enrolled in Further Education After Program of Study Completion:** Of the total number of participants who completed at least one grant-funded program, the total number of individuals who entered another program of study (grant-funded or not). The AMT project anticipated that 49% (40 out of 81) of the grant participants who completed a program of study would enroll in further education.
- **Total Number Employed After Program of Study Completion:** Of the total number of participants who were not incumbent workers and who completed at least one grant-funded program, the total number of individuals who entered unsubsidized employment in the first quarter after the quarter in which they exited the college. Per the DOL, the estimation should have been based on the number of non-incumbent workers who gained employment within the first quarter after completing at least one program of study. However, there is no information available about the number of projected non-incumbent workers in the project narrative; therefore, the percentage of program completers who gain employment was instead calculated. Yet, the DOL's definition requires the non-incumbent participants to complete a TAACCCT-funded program of study first before they can be counted as being placed in employment. Hence, the number of participants who were employed, per the DOL's definition, should not be greater than the number of participants who completed a program of study. As shown in Table 1 footnote b, this rule is obviously violated. That is, the AMT project projected 83

participants would gain employment; however, the project only anticipated 81 participants would complete a program of study. For the evaluation purpose, McREL evaluators re-set the target as 100% (81 out of 81) of the program completers would gain employment.

- **Total Number Retained in Employment After Program of Study Completion:** Of the total number of participants who were employed in the first quarter after the quarter in which they exited the college, the total number of individuals who were employed in the second and third quarters after exiting. The AMT project anticipated that 100% (81 out of 81)⁶ of the participants who gained employment would be retained in employment.
- **Total Number of Those Employed at Enrollment Who Received a Wage Increase Post-Enrollment:** Of the number of incumbent workers (those employed at enrollment) who enter a grant-funded program, the total number who received an increase in their wages at any time after becoming enrolled. Per the DOL, the calculation should have been based on the number of incumbent workers. However, there is no information available about the number of projected incumbent workers in the project narrative; hence, the percentage of all participants who receive wage gains was instead calculated. The AMT project anticipated that at least 11% (27 out of 245) of the participants would receive a raise.

Other Factors

Two types of other factors are considered in the AMT project's impact evaluation. Each of these factors are described below.

Contextual Factors. Program context can affect the services and activities offered to participants as well as the project's ability to train, place, and retain participants in the job market. Contextual factors often include community resources (e.g., the availability of existing community resources that the project can leverage), institutional capacity (e.g., the experience and capacity to carry out the grant program), partner networks (e.g., the ability to generate sustainable programs), and the labor market itself (e.g., programs being provided to meet the needs of the local market). These factors can influence how the AMT project operates the grant program in a way that further impacts participant outcomes and will ultimately sustain the AMT project beyond the life of the grant. These factors are examined in the implementation evaluation, and will be discussed when interpreting the impact and outcome evaluation findings.

Participant Demographic Characteristics. Participants' demographic characteristics and socioeconomic backgrounds, such as age, gender, minority status, employment status upon enrollment (i.e., incumbent status), and enrollment status (i.e., full-time versus part-time), are likely to influence participants' program completion status, their ability to obtain jobs and be retained in those positions, as well as their potential for advancement (i.e., wage increases). These factors will be taken into account when examining the AMT project's effect on participant outcomes.

⁶ As discussed under "Total Number Employed After Program of Study Completion," McREL evaluators had to revise the number from 83 to 81 because the number of participants who gained employment cannot be greater than the number of participants who completed a grant funded program of study.

Report Organization

Following this brief introduction, Chapter 2 describes the measures and data sources used for the evaluation. Chapter 3 describes the summative evaluation design and the related data analysis plan, while Chapter 4 presents the findings. Finally, Chapter 5 presents the implementation evaluation design and the data analysis plan, while Chapter 6 presents the findings.

Chapter 2: Measures and Data Collection

Given the multifaceted evaluation design, McREL evaluators gathered both quantitative and qualitative information through a variety of methods (e.g., surveys, interviews, and extant data) from multiple sources (e.g., program staff, participants, other stakeholders such as partners/employers, and project records). This mixed-method design allowed evaluators to triangulate the data from various sources to provide a deeper understanding about the processes and mechanisms that contributed to the outcomes. This section presents the methods, instruments, and activities for data collection. Table 2 shows the alignment of evaluation questions with the data collection methods.

Table 2. Evaluation Questions and Data Collection Methods

Evaluation Questions	Extant Data	Staff and Partner Interviews	Partner Survey	Student Entrance Survey	Student Exit Survey
Outcome Evaluation Questions					
1. To what extent has the AMT project achieved its projected outcomes?	X				
2. To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?	X			X	X
3. How does the AMT project work to support participant outcomes?	X	X	X		X
Implementation Evaluation Questions					
1. How were the key strategies and activities of the AMT project implemented over the course of the project period?	X	X	X	X	X
2. To what extent were the key strategies and activities implemented as planned?	X	X			
3. What changes were made to the programs of study during implementation and for what reasons?	X	X			
4. To what extent is the AMT model sustainable and transferable?	X	X	X		

Extant Data

Data collected and maintained as a regular part of the AMT project were collected by evaluators to be used as part of the evaluation. The records include (1) the UWA's quarterly and annual performance reports to the DOL, (2) meeting minutes (i.e., project implementation team meeting minutes and advisory board meeting minutes), (3) program curriculum, (4) assessment procedures/protocols, (5) project outreach and marketing activity logs, (6) student support service logs, (7) coach training activity logs, (8) participant experiential learning and job placement tracking logs, (9) participants' educational records, and (10) participants' employment and wage data. To access participants' educational records, McREL evaluators established institutional data sharing

agreements with UWA in grant Year 2 that allow McREL evaluators to have access to participants' educational record on an annual basis. In terms of collecting employment and wage data, the AMT project staff manually collected student employment and wage data through employer verification or collected pay stubs from participants. However, this task was challenging given that participants were often hard to reach once they exited the program. In Year 3, with the assistance from an educational partner who was a Round 1 TAACCCT grantee, the AMT project staff successfully established a data sharing agreement between the UWA and Alabama Department of Labor to secure aggregated data for DOL reporting. Employment and wage data were then securely transmitted to McREL for evaluation purposes.

Project Staff and Partner Interviews

Throughout the performance period, McREL evaluators conducted two sets of interviews with project staff members, faculty, and partners to gather their perceptions of their experiences with the AMT project and its implementation progress. For both interviews, project staff provided a list of key individuals who are and have been actively involved in the implementation of the AMT project; evaluators were then responsible for contacting these individuals and scheduling the interviews. The first set of interviews was conducted between November and December 2013. A total of 11 individuals were invited to participate in the interviews; of those, nine agreed to participate. The length of the interviews lasted approximately 45 to 90 minutes depending on each individual's role and level of involvement in the project. For the first round of data collection, evaluators focused on questions related to program development and implementation.

The second set of interviews was conducted in April 2015. A total of 10 individuals, including project staff, faculty members, and project partners, were invited to participate in the interviews and all of them agreed to do so. The length of the interviews lasted approximately 30 to 60 minutes depending on each individual's role and level of involvement in the project. For the second round of interviews, evaluators focused on questions related to program implementation, the perceived impact of the project on students and the local community, as well as planning for project sustainability and transferability.

Partner Survey

Project partners were surveyed twice throughout the first three years of the grant. During each round of data collection, the AMT project team provided a list of partners who have been involved in the project to McREL evaluators for survey administration purposes. For the first round of data collection, two surveys were developed: one for industry partners and one for workforce partners. The surveys were administered in November 2013 to gather information related to partners' (1) perceptions of the project's implementation, (2) level of involvement in project activities, (3) perceptions of implementation quality, (4) responsiveness to project activities and services, (5) involvement in participant recruitment efforts, and (6) perceptions of the project's impact on the manufacturing industry and local community. A total of 12 industry partners and eight workforce partners were invited to take their respective survey. Of those, four industry partners (33% response rate) and six workforce partners (75% response rate) responded to the surveys. Based upon a data quality review, two responses were removed from further data analyses due to a large amount of missing items. The remaining sample included eight partners (three industry partners and five workforce partners).

For the second administration, evaluators revised the previously developed partner surveys, merging the two surveys together. Evaluators also included education/community partners in the invitation list. Therefore, all of the project partners were asked to respond to the same survey during the second round; however, depending on their role, partners were able to skip items if the questions were not relevant to them. The survey asked questions related to partners' (1) level of involvement with various project components, (2) satisfaction with their level of involvement, (3) perceptions of the quality of project implementation, and (4) perceptions of the project's impact on the manufacturing industry and local community. This survey was administered in April 2015 with 18 out of 34 partners responding to the survey (53% response rate). Of the responses received, 33%, 39%, and 28% were industry, education/community, and workforce partners, respectively.

Student Entrance Survey

Starting in fall 2013, the evaluation team administered an entrance survey to each project participant six to eight weeks after program enrollment.⁷ The survey is comprised of two parts. The first part includes questions about participants' demographic information; the second part includes a series of questions about participants' motivation and barriers to learn, which is measured by the College Persistence Questionnaire (CPQ) (Davidson et al., 2009). The 30-item short version of the CPQ, validated with community and technical college populations, assesses 10 factors that are associated with college retention and persistence, including (1) institutional commitment, (2) academic integration, (3) financial strain, (4) social integration, (5) degree commitment, (6) collegiate stress, (7) advising effectiveness, (8) scholastic conscientiousness, (9) academic motivation, and (10) academic efficacy. Additionally, evaluators collaborated with CPQ developers to develop two additional constructs—career integration and grit—that were also found to be relevant to adult learners' persistence and retention in postsecondary education (Bremer et al., 2011). This survey took participants about 20 to 25 minutes to complete.

However, as the project moved toward the end of grant Year 2, participant response rates began dropping. After having discussions with project staff members, evaluators decided to shorten the survey by removing several of the CPQ constructs that are less relevant to the targeted participants; these revisions were made in the spring of 2015. The CPQ constructs remaining in the final version were (1) academic integration, (2) collegiate stress, (3) advising effectiveness, and (4) scholastic conscientiousness. Items related to career integration were also included. The revised survey took participants about 10 minutes to complete. The Student Entrance Survey response rates by cohort are shown below in Table 3. Overall, between Fall 2013 and Spring 2016, a total of 164 out of 205 participants who were invited to respond to the Student Entrance Survey did so, with a response rate of 80%.

Table 3. Student Entrance Survey Response Rates by Cohort

Cohort	# of Participants Invited	# of Participant Responses	Response Rate
Fall 2013	35	28	80.0%
Spring 2014	32	31	96.9%
Fall 2014	45	24	53.3%
Spring 2015	17	14	82.4%
Fall 2015	55	49	89.1%

⁷ Participants enrolled in eight-week short-term programs are not asked to take the entrance survey; instead, they are only asked to take the exit survey before program completion.

Cohort	# of Participants Invited	# of Participant Responses	Response Rate
Spring 2016	21	18	85.7%
Total	205	164	80.0%

Student Exit Surveys

Similar to the entrance survey, starting in fall 2013, the evaluation team administered an exit survey to each project participant two to three weeks before program completion. The exit survey contains two parts. The first part includes questions related to participants' perceptions and experiences with all aspects of program activities (e.g., multisite learning experiences, hybrid curricula, technology-enabled instruction, hands-on virtual learning, experiential learning experiences, web-based coaching services, and in-person coaching services). The second part of the survey includes the same CPQ and additional construct (i.e., career integration and grit) items as the entrance survey. The survey took participants about 20 to 25 minutes to complete. However, similar to what occurred with the entrance survey, participant response rates to the exit survey also started dropping as the project moved towards the end of Year 2. Therefore, evaluators decided to shorten the exit survey by removing the same items that were removed from the entrance survey. The revised survey took participants about 10 to 12 minutes to complete. The participant exit survey response rates by cohort are shown below in Table 4. Specifically, between Fall 2013 and Spring 2016, a total of 133 out of 214 participants who were invited to take the Student Exit Survey did so, with a response rate of 62%. It should be noted that, given the nature of the AMT grant, participants were likely to earn multiple certificates, diplomas, and degrees; hence, some participants may have been invited to take the Student Exit Survey more than once. A total of 122 Student Exit Surveys were collected from 96 unique participants. The last survey completed was used in analyses as it reflected participants' overall experience with the AMT grant.

Table 4. Student Exit Survey Response Rates by Cohort

Cohort	# of Participants Invited	# of Participant Responses	Response Rate
Fall 2013	19	16	84.2%
Spring 2014	24	22	91.7%
Summer 2014	35	12	34.3%
Fall 2014	14	7	50.0%
Spring 2015	30	12	40.0%
Summer 2015	32	25	78.1%
Fall 2015	17	17	100.0%
Spring 2016	43	22	51.2%
Total	214	133	62.1%

Chapter 3: Summative Evaluation Design and Analysis Plan

This chapter elaborates on the summative questions presented in Chapter 1, followed by a detailed description of the impact study's design, sample, and data analysis plan.

Summative Evaluation Questions

As mentioned in Chapter 1, three summative evaluation questions were examined. The first question, *To what extent has the AMT project achieved its projected outcomes?*, addresses questions related to the project's performance on projected outcomes. In particular, evaluators examined the extent to which the project met its performance targets as described in Chapter 1 (Outcomes section). A detailed description of the evaluation methods and analysis plan for Study 1 is discussed in the following section.

The second question was: *To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?* The target population for the AMT project is adult learners who often encounter multiple barriers and challenges to persistence and retention (Chao, 2009). With this in mind, the AMT project implemented an evidence-based design (e.g., enhanced curricula, technology-enabled learning, and individualized student support services) to help students overcome barriers and ensure that they stayed motivated to persist and ultimately complete their program of study. Hence, the second question was designed to understand if the project had increased participants' perceptions related to persistence factors, including (1) collegiate stress, (2) scholastic conscientiousness, (3) academic integration, (4) advising effectiveness, and (5) career integration (i.e., persistence factors). A detailed description of the evaluation methods and analysis plan is discussed in the Study 2 section.

The third question, *How does the AMT project work to support participant outcomes?*, aimed to further examine the underlying mechanisms through which the AMT project exerted its influence on participant outcomes. As discussed in Chapter 1 (Intermediate Outcomes section), it was hypothesized that the effect of the AMT project, as measured by (1) collegiate stress, (2) scholastic conscientiousness, (3) academic integration, and (4) advising effectiveness on participant outcomes (e.g., program completion and gaining employment) is mediated by participants' perceptions of career integration. A detailed description of the evaluation methods and analysis plan for Study 3 is discussed in that section.

Study 1

This section provides details on the methods, sample, and analysis plan for the outcome evaluation.

Methods

The main data sources for Study 1 were extant data collected by AMT project staff, including student demographic data and outcome tracking data (i.e., educational records and employment and wage data). A detailed description about these data are described in Chapter 2.

Outcome Evaluation Sample

All participants ($n = 228$) enrolled in an AMT program through the first 42 months of the grant were included in the outcome analysis. Table 5 provides the demographic characteristics of these participants. Overall, 80% of the participants were male; 83% were Black or African American; 90% were full-time students; 48% were incumbent workers; 8% were eligible veterans or veterans' spouses; 1% reported having a disability; 7% were eligible for Pell grant funding; and 3% were workers eligible for trade adjustment assistance (TAA). On average, participants were about 28 years old when they were enrolled ($SD = 9.69$).

Table 5. AMT Participant Characteristics (N = 228)

Demographic Characteristics	<i>n</i>	%	<i>M (SD)</i>
Gender			
Male	182	79.8%	--
Female	46	20.2%	--
Race/Ethnicity ^a			
Hispanic/Latino	1	0.4%	--
American Indian or Alaskan Native	0	0.0%	--
Asian	0	0.0%	--
Black or African American	190	83.3%	--
Native Hawaiian or Other Pacific Islander	0	0.0%	--
White or Caucasian	32	14.0%	--
More than One Race	2	0.9%	--
Enrollment Status ^a			
Full-time Status	204	89.5%	--
Part-time Status	23	10.1%	--
Other			
Incumbent Worker	110	48.2%	--
Eligible Veterans	13	5.7%	--
Age	--	--	27.95 (9.69)
Persons with a Disability	3	1.3%	--
Pell-Grant Eligible	15	6.6%	--
TAA Eligible	6	2.6%	--

^a Percentages may not add up to 100% due to missing data.

Data Analysis

To examine the AMT project's outcomes, evaluators conducted descriptive analyses of the nine TAACCCT outcome indicators listed below (see Chapter 1, Outcomes section for definitions). Percentages of participants meeting each of the outcome indicators were calculated and compared against the performance targets.

- Total number of unique participants served

- Total number of participants who have completed a TAACCCT-funded program
- Total number of participants still retained in their program of study or another TAACCCT-funded program
- Total number of participants completing credit hours
- Total number of participants earning credentials
- Total number of participants enrolled in further education after grant-funded program of study completion
- Total number of participants employed after grant-funded program of study completion
- Total number of participants retained in employment after program of study completion
- Number of participants employed at enrollment who received a wage increase post-enrollment

Study 2

This section provides details on the methods, sample, and analysis plan for the exploration of changes in persistence factors as a result of AMT participation.

Methods

The main data sources for Study 2 were the student survey data, including the Student Entrance Survey and Student Exit Survey. Details about these instruments are described in Chapter 2.

Sample

A total of 164 Student Entrance Surveys and 133 Student Exit Surveys were collected throughout the grant. After merging the datasets together, 89 unique students responded to both of the surveys and have been included in Study 2.⁸ Table 6 shows the characteristics of the sample. The average age of the sample was 27 ($SD = 8.86$), and the vast majority were male (85%) and minority (87%; i.e., Black or African American; multirace). About one third were incumbent workers upon enrollment, which means these students were working, either part-time or full-time, while taking classes.

Table 6. Study 2 Sample Characteristics ($n = 89$)

Characteristics	<i>n</i>	%	<i>M</i> (<i>SD</i>)
Age	89	--	27.10 (8.86)
Male	76	85.4%	--
Female	13	14.6%	--
Caucasian	11	12.4%	--
Minority (non-Caucasian and multiracial)	76	87.4%	--
Full-time participants	89	100%	--
Incumbent workers upon enrollment	33	37.1%	--

⁸ When students responded to the Student Exit Survey more than once, the latest completed exit survey was used.

Characteristics	<i>n</i>	%	<i>M (SD)</i>
Non-incumbent workers upon enrollment	56	62.9%	--

Note. Percentages may not add up to 100% due to missing data.

Data Analysis

Five persistence factors were explored in this study to understand the extent to which AMT participation may have changed participants' perceptions of collegiate stress, scholastic conscientiousness, academic integration, advising effectiveness, and career integration as a result of AMT project participation. A series of paired samples *t*-tests were conducted to examine individual changes on persistence factors from enrollment to program completion. Regression statistical models were also conducted to explore if student demographic characteristics (i.e., age, gender, minority status, and incumbent worker status) predict changes in the persistence factors. Table 7 shows the variables used in the analysis, while Table 8 shows the reliabilities of the persistence factors. Overall, the reliability⁹ of all constructs has met What Works Clearinghouse standards ($\alpha > = 0.50$) (What Works Clearinghouse, 2013).

Table 7. Study 2 Variables

Items by Constructs
Collegiate Stress^a
• How much pressure do you feel when trying to meet deadlines for course assignments? • Students differ quite a lot in how distressed they get over various aspect of college life. Overall, how much stress would you say that you experience while attending this institution? • How often do you feel overwhelmed by the academic workload here?
Scholastic Conscientiousness^a
• How often do you miss class for reasons other than illness or participation in school-related activities? • How often do you arrive late for classes, meetings, and other college events? • How often do you turn in assignments past the due date?
Academic Integration (Student Entrance and Exit Surveys)
• How would you rate the quality of the instruction you are receiving here? • How much do the instructors and the courses make you feel like you can do the work successfully? • In general, how satisfied are you with the quality of instruction you are receiving here?
Advising Effectiveness (Student Entrance and Exit Surveys)
• How satisfied are you with the academic advising you receive here? • How easy is it to get answers to your questions about things related to your education and training here? • How would you rate the academic advisement you receive here?
Career Integration (Student Entrance and Exit Surveys)^b
• How likely is it that the training you are receiving here will help you to get the job you want? • How confident are you that the career training you receive here will give you the necessary knowledge and skills? • How committed are you to getting a job in the field for which you are training?

⁹ A measure is said to have a high reliability if it produces similar results under consistent conditions.

Items by Constructs

Note. All items were rated on a 5-point scale; a higher score means a better outcome. A scale mean calculated by averaging the ratings of all items within the scale/construct was used in the analyses.

a. Items included in this construct were reverse coded; a higher score means a better outcome.

b. Five items were originally developed to assess participants' perceptions of career integration. Using all of the Student Entrance Survey data, principal component analysis was conducted to establish scale reliability. Based on the results of this analysis, two item was further removed.

Table 8. Reliabilities of Persistence Factors

Constructs	Entrance Survey		Exit Survey	
	<i>n</i>	Cronbach's Alpha	<i>n</i>	Cronbach's Alpha
Collegiate Stress	81	0.67	85	0.59
Scholastic Conscientiousness	52	0.79	66	0.69
Academic Integration	87	0.71	86	0.82
Advising Effectiveness	89	0.71	86	0.65
Career Integration	85	0.69	0.84	0.71

Study 3

This section provides details on the methods, sample, and analysis plan for exploration of the underlying mechanisms through which the AMT project may have exerted its influence on participants' program completion status.

Methods

The main data sources for Study 3 were Student Exit Survey data and extant data (e.g., educational records). Details about the instruments are described in Chapter 2.

Sample

For this study, students who completed the Student Exit Survey were included in the analyses ($n = 102$).¹⁰ Through the survey, participants provided information related to their experience with the curricula, instruction, and wraparound student support services. Table 9 provides the demographic information for this sample. The average age of the sample was 27 ($SD = 8.49$), and the vast majority were male (85%) and minority (87%; i.e., Black or African American; multirace). About 44% were incumbent workers upon enrollment, which means these students were working, either part-time or full-time, while taking classes.

Table 9. Study 3 Sample Characteristics ($n = 102$)

Characteristics	<i>n</i>	%	<i>M (SD)</i>
Age	102	--	27.23 (8.49)
Male	87	85.3%	--
Female	15	14.7%	--

¹⁰ A total of 133 Student Exit Surveys were collected from 102 unique participants. For participants who completed the survey more than once, the latest completed survey was used.

Characteristics	<i>n</i>	%	<i>M (SD)</i>
Caucasian	16	15.7%	--
Minority (non-Caucasian and multiracial)	84	82.4%	--
Incumbent workers upon enrollment	45	44.1%	--
Non-incumbent workers upon enrollment	57	55.9%	--

Note. Percentages may not add up to 100% due to missing data.

Data Analysis

As described in the AMT project's framework (Chapter 1, Intermediate Outcomes section), it was hypothesized that the project would enhance students' sense of career integration (i.e., a mediator) that further supports their success (i.e., program completion) through individualized wraparound student support services measured by academic integration, advising effectiveness, collegiate stress, and scholastic conscientiousness (see Figure 3 for a visual presentation of the proposed pathways). AMT strategies refer to individual wraparound student support services; mediator refers to participants' sense of career integration; and participant outcome refers to participants' program completion status.

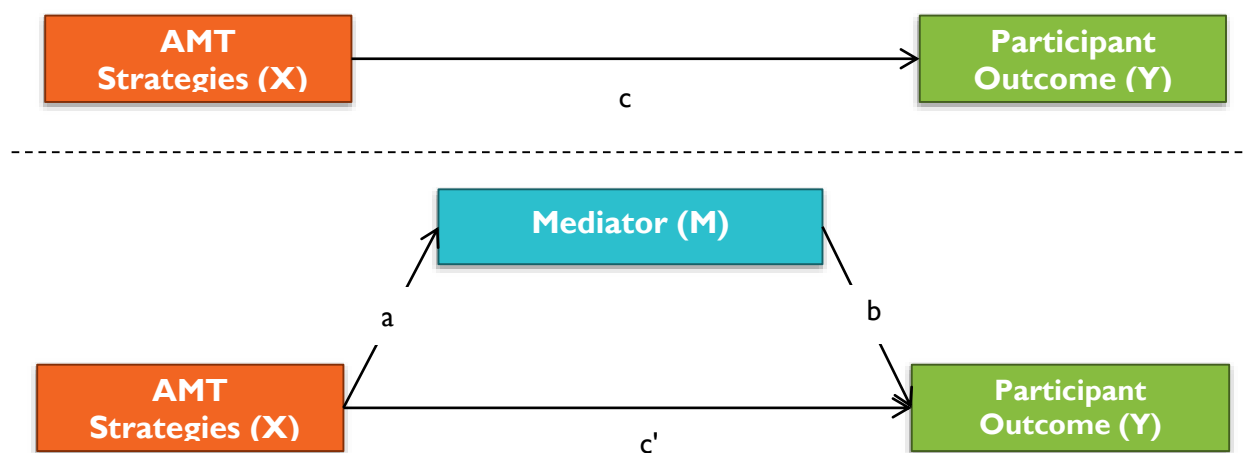


Figure 1. Hypothesized Mediation Pathways

To test for mediation effect, four steps suggested by Baron and Kenny (1986) were examined, including (1) conducting a simple regression analysis with X predicting Y to test for Path c; (2) conducting a simple regression analysis with X predicting M to test for Path a; (3) conducting a simple regression analysis with M predicting Y to test the significance of Path b,¹¹ and (4) conducting a multiple regression analysis with X and M predicting Y¹² (Baron & Kenny, 1986; Preacher & Hayes, 2004). The estimation of Path c refers to total effect; while the estimation of Path c' refers to the direct effect of X on Y while controlling for M. The estimation of Path a x Path b refers to indirect effect. The purposes of Steps 1 to 3 is to establish that zero-order relationships among the variables exist. If the results of Steps 2 and 3 were statistically significant, it suggests that there is mediation effect (MacKinnon, Fairchild, & Fritz, 2007). All variables used in

¹¹ A logistic regression is performed when the outcome is a binary variable.

¹² A logistic regression is performed when the outcome is a binary variable.

the Study 2 were used in this study (see Table 7). Table 10 shows Cronbach's alpha for each construct based on the sample included in this study. Overall, the reliabilities of all constructs have met What Works Clearinghouse standards ($\alpha \geq 0.50$) (What Works Clearinghouse, 2013).

Table 10. Reliabilities of Constructs Measuring AMT Strategies and the Mediator

Constructs	n	Cronbach's Alpha
Collegiate Stress	96	0.64
Scholastic Conscientiousness	75	0.62
Academic Integration	98	0.84
Advising Effectiveness	98	0.66
Career Integration	97	0.70

Chapter 4: Summative Evaluation Findings

This chapter presents the summative evaluation findings by evaluation question.

I. To what extent has the AMT project achieved its projected outcomes?

Table 11 shows the AMT project's outcomes as compared to the performance targets. Methods and definitions to calculate the performance targets are described in detail in Chapter 1 (see Outcomes section). The number of participants recruited was slightly under the performance target (93th percentile in terms of meeting the performance target). It should be noted that, as shown in Table 11, McREL evaluators were unable to determine if the AMT project has met the outcome of number still retained (indicator 3). As discussed in Chapter 1 (see Outcomes section), when the proposal was written, it was anticipated that the retention rate would increase 15% throughout the grant; however, there was no information about the retention rate before the grant. Hence, there is no projected number for this outcome. For the AMT project, none of the grant participants were retained as of the end of the grant as participants either exited UWA with a certificate (57%; $n = 130$) or they left without a certificate (43%; $n = 98$). In all, throughout the grant, 21, 42, 46, and 0 participants were retained as of the end of grant Year 1, Year 2, Year 3, and Year 4, respectively. In all, the project only met one performance target:

- **Outcome Indicator #2:** 57% (130 out of 228) of the participants completed a grant-funded program of study as compared to the target of 33% (81 out of 245) by the end of the grant.

Table 11. AMT Outcome Measures

Outcome Measures		Actual Outcomes		Performance Targets	
		<i>n</i>	% ^a	<i>n</i>	% ^b
1	Total unique participants served	228	--	245	--
2	Total number of participants who have completed a TAACCCT-funded program ^c	130	57.0%	81	33.1%
3	Total number of participants still retained in their program of study or another TAACCCT-funded program	0	0.0%	--	--
4	Total number of participants completing credit hours	162	71.1%	193	78.8%
5	Total number of participants earning credentials	130	57.0%	182	74.3%
6	Total number of participants enrolled in further education after grant-funded program of study completion	44	33.8%	40	49.4%
7	Total number of participants employed after grant-funded program of study completion	2	1.5%	81	100.0%
8	Total number of participants retained in employment after program of study completion ^d	1	50.0%	81	100.0%
9	Number of participants employed at enrollment who received a wage increase post-enrollment	15	6.6%	27	11.0%

^a The denominator for calculating the percentage was 228; otherwise is noted.

^b The denominator for calculating the percentage was 245; otherwise is noted.

^c The AMT defines program completers as individuals who have completed at least one program of study; if participants completed more than one program of study, the latest program completed was counted.

^d The denominator for calculating the percentage was the number of participants employed after program completion (Indicator 7).

Below is the list of indicators that did not meet the performance targets:

- **Outcome Indicator #4:** 71% (162 out of 228) of the participants earned credits, ranging from three to 54 credits, in comparison to the target of 79% (193 out of 245). A total of 3096 credits were completed by the grant participants.
- **Outcome Indicator #5:** 57% (130 out of 228) of the participants earned at least one credential which was 17 percentage points lower than the target of 74% (182 out of 245). Of those, 31% (40 out of 130) earned two or more certificates.
- **Outcome Indicator #6:** 34% (44 out of 130) of the program completers enrolled in further education (TAACCCT grant funded or not) as compared to the target of 49% (40 out of 81). It should be noted that this number may be underestimated because with limited resources, AMT program staff were only able to track participants who continued their education with UWA; hence, it is unknown how many participants enrolled in other postsecondary education institutions after program completion.
- **Outcome Indicator #7:** 2% (2 out of 130) of the program completers gained employment during the first quarter after exiting their program of study in comparison to the target of 100% (81 out of 81). It should be noted that this outcome is underestimated for two reasons. First, although the AMT project established a data sharing agreement with the Alabama DOL, the data provided did not specify date of employment; hence, evaluators were unable to identify employment status per the DOL's definition within the specific timeline (e.g., participants can only be counted if they were employed during the first quarter after the exit quarter). Therefore, evaluators have to rely on the employment and wage data collected by project staff based on student self-report. However, such data are still limited given that the AMT project staff were only able to track down a small number of program completers and follow up on their employment status after program exit. Second, there is time lag between when the employment and wage data are available and when the report is completed. When this report was prepared, 16 participants completed their program of study during the last quarter of the grant Year 4. There was insufficient time to track employment outcomes for these students.
- **Outcome Indicator #8:** 50% (1 out of 2) of the participants who gained employment were retained as compared to the target of 100% (81 out of 81). As discussed in Indicator #7, this outcome is underestimated given the fact that the data needed for this outcome were not available when this report was prepared. In fact, 47 participants completed their program of study between the second quarter and fourth quarter of the grant Year 4. There was insufficient time to track data to determine their retention in employment status.
- **Outcome Indicator #9:** 7% (15 out of 228) of the participants received wage increases after becoming enrolled in a TAACCCT-funded program of study in comparison to the target of 11% (27 out of 245). Yet, it should be noted that, per the DOL, the estimation should be based on the number of incumbent workers who received wage increases after enrollment. The DOL's definition would result in 14% (15 out of 110) of the incumbent workers receiving wage increases. However, there is no information available about the number of projected incumbent workers in the project narrative; therefore, McREL

evaluators are unable to compare the performance target with the actual outcomes with the more accurate estimation based on the DOL definition.

2. To what extent has the AMT project changed participants' perceptions related to persistence factors that may further support participant outcomes?

To answer this question, evaluators conducted paired-sample *t*-tests to examine the extent to which participants demonstrated changes in their perceptions about factors related to persistence and retention, including (1) collegiate stress (i.e., How often do you feel overwhelmed by the academic workload here?), (2) scholastic conscientiousness (i.e., How often do you arrive late for classes, meetings, and other college events?), (3) academic integration (i.e., How much do the instructors and courses make you feel like you can do the work successfully?), (4) advising effectiveness (i.e., How satisfied are you with the academic advising you receive here?), and (5) career integration (i.e., How confident are you that the career training you receive here will give you the necessary knowledge and skills?).

In all, 164 entrance surveys and 133 exit surveys were collected from participants between fall 2013 and spring 2016. Of those, 89 students completed both the entrance and exit surveys, which were included in the analyses. Findings of the paired-sample *t*-tests are reported in Table 12. Overall, AMT participants' ratings on persistence factors remained stable and unchanged statistically from enrollment to program completion with one exception. That is, AMT participants' ratings on items related to career integration decreased significantly from program enrollment (pretest) to program exit (posttest) ($t(88) = 2.82, p = 0.006, ES = 0.30$).

Table 12. Changes in Student Perceptions of Persistence and Retention Related Factors

Factors	Entrance Survey			Exit Survey			Paired-sample <i>t</i> -tests			
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>ES</i>
Collegiate Stress	88	3.33	0.88	88	3.42	0.77	-0.97	87	0.335	0.11
Scholastic Conscientiousness	82	4.44	0.73	82	4.25	0.83	1.84	81	0.069	0.24
Academic Integration	89	4.34	0.58	89	4.34	0.65	-0.10	88	0.923	0.00
Advising Effectiveness	89	4.38	0.57	89	4.31	0.61	1.05	88	0.295	0.12
Career Integration	89	4.63	0.53	89	4.46	0.62	2.82	88	0.006	0.30

Note. A high mean score means better outcomes. Effect size (*ES*) estimating of the magnitude of differences over time is reported using the Hedge's *g* statistic (Hedges & Olkin, 1985). According to Wolf (1986), an *ES* value of 0.25 or greater is educationally significant and an *ES* value of 0.50 is practically significant.

Further examination of the study sample revealed that the majority of the sample (80%) were program completers. Hence, the null findings found on four persistence factors may be because this sample was over-represented by a group of individuals who had more positive experiences with the program since enrollment. For instance, as shown in Table 11, participants were *neutral* (a mean between 2.50 and 3.49) about collegiate stress, and they generally *agreed* (a mean between 3.50 and 4.49) that the AMT project supported their sense of scholastic conscientiousness, academic integration, advising effectiveness. Although ratings for participants' sense of career integration decreased from the enrollment to program exit, on average, participants continued to *agree* that the project supported their perception of career integration before program exit. Taken together, the interpretation of findings should be viewed with caution. The null findings did not

suggest that the AMT project had no effect on persistence factors; instead, this study is limited because of its over-representation of program completers who may have had more positive experiences with the project since enrollment in the study sample.

3. How does the AMT project work to support participant outcomes?

The main outcome of interest was to explore the underlying mechanisms that may explain the effect of the AMT project on participant outcomes, particularly program completion. Four steps suggested by Baron and Kenny (1986) were performed to test the mediation effect of career integration on participant outcomes (see Table 13). Results indicated that academic integration was a significant predictor of participants' perception of career integration ($\beta = 1.17$, $SE = 0.56$, $p = 0.037$) participants' program completion status ($\beta = 0.48$, $SE = 0.10$, $p < 0.001$); however, the effect of academic integration was not mediated by career integration (i.e., career integration was not a significant predictor of participants' program completion status [$\beta = 0.35$, $SE = 0.54$, $p = 0.520$]).

Table 13. Mediation Modeling Results by Outcome

Effects	β	SE	P
Completion Status			
Step 1: Path c (Total Effect)			
Collegiate Stress → Completion Status	0.46	0.41	0.261
Scholastic Conscientiousness → Completion Status	-0.34	0.44	0.439
Academic Integration → Completion Status	1.17	0.56	0.037
Advising Effectiveness → Completion Status	-0.11	0.62	0.861
Step 2: Path a			
Collegiate Stress → Career Integration	-0.01	0.07	0.863
Scholastic Conscientiousness → Career Integration	0.043	0.07	0.522
Academic Integration → Career Integration	0.48	0.10	<0.001
Advising Effectiveness → Career Integration	0.14	0.11	0.191
Step 3: Path b			
Career Integration → Completion Status	0.35	0.54	0.520
Step 4: Path c' (Direct Effect)			
Collegiate Stress → Completion Status <i>While Controlling for the Effect of Career Integration</i>	0.51	0.43	0.230
Scholastic Conscientiousness → Completion Status <i>While Controlling for the Effect of Career Integration</i>	-0.39	0.45	0.390
Academic Integration → Completion Status <i>While Controlling for the Effect of Career Integration</i>	0.99	0.62	0.107
Advising Effectiveness → Completion Status <i>While Controlling for the Effect of Career Integration</i>	-0.17	0.64	0.794

While there is no statistical evidence to explain how the AMT project works to support participant success, anecdotes collected from staff and partner interviews reveal some promising features of the AMT project as it is depicted in the logic model. Specifically, during interviews, AMT project staff mentioned several strategies that have been critical in supporting student success. First, the relationships that have developed between students and their coaches through the project's

hands-on approach to coaching have been a significant motivating factor. Second, the accessibility of coaches and faculty members has been an important piece of students' academic development. One AMT staff member commented, "We are at arm's length and they can reach out to us at any time possible." Third, the "top-to-bottom" approach to teaching that connects classroom instruction to real-world tasks, coupled with various internship opportunities, provides context to students' learning and supports students' successful transition into a manufacturing career.

Chapter 5: Implementation Evaluation Design and Analysis Plan

This chapter elaborates on the formative questions presented in Chapter 1, followed by a detailed description of the formative evaluation design, methods, and data analysis plan.

Implementation Evaluation Questions

The implementation evaluation examines the extent to which program implementation strategies, services, and activities (e.g., program outputs) are applied as planned (e.g., adherence to project work plan) and how well they are implemented (e.g., service quality and participant¹³ responsiveness). Although full implementation of the original program is desired, McREL evaluators recognize that in practice, model modification (e.g., program adjustment and strategic refinement) may occur to support and enhance the feasibility and sustainability of the program (Century et al., 2010; Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). However, any deviation (e.g., low implementation levels or frequent modification) from the originally designed program also creates a potential threat to program fidelity (Century et al., 2010). When a program is implemented with low fidelity, it is unclear whether the successes or failures of a program are due to the program itself or a lack of fidelity in implementation. Hence, the focus of the AMT project's implementation evaluation was to measure and monitor all activities implemented (whether it is by original design or modification) over the first three years of the grant period. This design also allowed evaluators to provide timely and actionable recommendations for project staff regarding improvements and refinements for strengthening the program that balance implementation fidelity and data-based modifications to enhance the potential for sustainability, while still maintaining the rigor of the impact analysis.

Overall, four overarching formative evaluation questions and subquestions guided by the TAACCCT Round 2 SGA were examined. Specifically, the formative evaluation (1) analyzed the steps taken by UWA to create and implement the AMT project; (2) assessed the operational strengths and weaknesses of the project; and (3) examined the sustainability of the project beyond the life of the grant.

To address the first question: *How were the key strategies and activities of the AMT project implemented over the course of the project period?*, evaluators examined the strategies and processes that the AMT implemented to support student outcomes as described in the logic model (see Chapter 1). The strategies examined included (1) comprehensive applied technology curricula, (2) professional development and personnel training, (3) multi-component, evidence-based support services, (4) strategic alignment with partners in education, industry, and workforce, and (5) job placement and employment follow up. Additionally, under this formative question, the following implementation questions specified in the TAACCCT Round 2 SGA are also answered:

SGA.Q1. How was the particular curriculum selected, used, or created?

SGA.Q2. How were the programs and program design improved or expanded using grant funds?

SGA.Q3. What delivery methods were offered?

¹³Throughout this proposal, the terms “participant” and “student” are used interchangeably and should be understood to mean the same.

- SGA.Q4. What was the project's administrative structure?
- SGA.Q5. What support services and other services were offered?
- SGA.Q6. Was career guidance provided and if so, through what methods?
- SGA.Q7. Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program? What assessment tools and processes were used? Who conducted the assessment? How were the assessment results used? Were the assessment results useful in determining the appropriate program and course sequence for participants? Was career guidance provided and if so, through what methods?
- SGA.Q8. What contributions did each of the partners make in terms of (1) program design, (2) curriculum development, (3) recruitment, (4) training placement, (5) program management, (6) leveraging of resources, and (7) commitment to program sustainability?
- SGA.Q9. What factors contribute 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?

For the second question: *To what extent were the key strategies and activities implemented as planned?*, fidelity assessments were conducted five times to document, assess, and monitor AMT project activities and outputs. The fidelity measure is a key evaluation tool that was used to monitor the project's progress, strengths, weaknesses, and achievement throughout the implementation years. Details on the fidelity assessment is described in detail under the Fidelity Assessment section in this chapter.

As part of the fidelity assessment, McREL evaluators also addressed the third question: *What changes were made to the program of study during implementation and for what reasons?* For this question, evaluators documented any deviations from the original implementation plan and identified the reasons for the modification(s).

Finally, for the last question: *To what extent is the AMT model sustainable and transferable?*, evaluators explored and described how the successful program components will be sustained beyond the life of the grant, and identified the components and strategies that can be duplicated in other settings and programs.

Fidelity Assessment

To understand the fidelity of project implementation, McREL evaluators developed a fidelity assessment tool to examine three aspects of project implementation: (1) *adherence*, (2) *quality*, and (3) *participant responsiveness* (Century et al., 2010). Adherence focuses on the “structural” aspects of implementation, while quality and participant responsiveness focus on the “procedural” aspects of implementation. A total of five adherence assessments were conducted throughout the implementation period on the following timeline.

T1: December 2013 (using data collected between July and December 2013)

T2: June 2014 (using data collected between January and June 2014)

T3: December 2014 (using data collected between July and December 2014)

T4: June 2015 (using data collected between January and June 2015)

T5: September 2015 (using data collected between July and September 2015)

Adherence

By definition, *adherence* refers to the extent to which the critical components of an intended program are present when the program is enacted (Century et al., 2010). To assess adherence, evaluators identified a total of 27 implementation indicators based on the Project Work Plan and project narrative to evaluate the extent to which the AMT project team has made progress toward full implementation over time (see Table 14 for the number of indicators identified across the implementation areas). During each assessment round, McREL evaluators reviewed project records and objectively assigned a rating to each indicator.¹⁴ The project coordinator was provided the opportunity to review the ratings and provide feedback. A sum score (Adherence Score) was then calculated by adding all of the individual ratings together presenting the project's implementation status. Percentiles¹⁵ were also calculated to present the AMT project's progress toward full implementation within each implementation areas as well as the overall implementation. As part of the adherence assessment, any modification made to the project plan and reasons for the modification were also described.

Table 14. Numbers of Implementation Indicators Across Implementation Areas

Implementation Area	Number of Indicators Identified		
	Adherence	Quality	Participant Responsiveness
1. Develop Comprehensive Applied Technology Curricula	5	8	2
2. Develop the Professional Development/Personnel Training Component	3	2	1
3. Develop a Multicomponent, Evidence-Based Support Strategy	5	8	4
4. Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility	4	4	0
5. Strategic Alignment with Partners in Industry, Education, and Workforce	8	3	3
6. Implement Job Placement and Employment Follow-up Component	2	3	4
Total	27	28	14

Quality

Because a program's effectiveness is impacted by the quality in which it has been implemented, *implementation quality* is measured as part of the fidelity assessment using two data sources. First, a total of 20 items from the Student Exit Survey that assess participants' perceptions of the quality of implementation across specific project components were included in the quality assessment. From these data, an overall *Quality Index_Student Report* (QI_SR) score was calculated to

¹⁴ Each indicator was rated on a five-point scale from 0 (has not yet been implemented) to 4 (fully implemented). Therefore, for the overall implementation, the lowest possible score was 0 and the highest possible score was 108.

¹⁵ Percentiles were calculated using the following formula: (sum score / highest score possible) * 100.

better understand participant perceptions at the program level over time. Second, eight items from the Partner Survey asking about partners' perspectives of the AMT project's implementation quality, especially in areas where they were expected to be involved to support the project objectives, were included as part of the quality assessment. From these data, an overall *Quality Index_Partner Report* (QI_PR) score was calculated. Table 14 shows the number of quality indicators identified across the implementation areas.

To calculate the QI_SR and QI_PR scores, individual responses on each survey item were first reclassified into two categories: endorsed response and not-endorsed response. Specifically, all items were measured on a 5-point Likert-type scale ranging from 1 to 5. A response of 4 or 5 was recoded as 1 (endorsed response), and a response of 1, 2, or 3 was recorded as 0 (not-endorsed response). Frequencies were then calculated to present the percentage of participants or partners who endorsed the items. Percentages were then converted into scale scores of 1.00 to 10.00:

0.00 to 10.00%	= 1.00
10.01 - 20.00%	= 2.00
20.01 – 30.00%	= 3.00
30.01 – 40.00%	= 4.00
40.01 – 50.00%	= 5.00
50.01 – 60.00%	= 6.00
60.01 – 70.00%	= 7.00
70.01 – 80.00%	= 8.00
80.01 – 90.00%	= 9.00
90.01 – 100.00%	= 10.00

A sum score was calculated for the QI_SR and QI_PR scores. Percentiles¹⁶ were also calculated and reported.

Participant Responsiveness

Participant responsiveness is a measure of stakeholder responses (i.e., those received from participants and partners) and their engagement in project activities. It is hypothesized that the higher the level of enthusiasm and engagement among stakeholders, the better the outcomes will be. To assess participant responsiveness, two data sources were used. First, evaluators utilized data collected from the Student Exit Survey to assess participants' level of satisfaction with the AMT project's services and activities, as well as their participation in and enthusiasm for the project services. A total of eight items were included in the assessment. From these data, an overall *Participant Responsiveness Index_Student Report* (PRI_SR) score was calculated to better understand students' perceptions at the program level over time. Second, six items from the Partner Survey that asked about partners' involvement in the project were included as part of the assessment. From these data, an overall *Participant Responsiveness Index_Partner Report* (PRI_PR) score was calculated. The number of participant responsiveness indicators identified across the implementation areas are presented in Table 14. The same methods used to calculate the QI_SR and QI_PR scores were also used to calculate the PRI_SR and PRI_PR scores, followed by calculations of percentiles.

¹⁶ Percentile was calculated using the following formula: (sum score / highest score possible) * 100.

Taken together, the fidelity assessment provides information related to the AMT project's strengths and weaknesses, and provides actionable and timely information to strengthen the quality of implementation. As such, it was utilized as a tool to guide strategic planning that supported continuous improvement and ensured that all of the project elements were implemented as planned within the performance period so outcome analyses could be conducted without interference.

Data Analysis

For the fidelity assessment, descriptive statistics (e.g., frequencies, percentages, means, standard deviations, or cross-tabulations) were conducted for the Student Exit Survey and Partner Survey as well as other relevant project records. Before data analyses were performed, McREL evaluators screened the data for data entry errors and improbable responses.

A variety of qualitative data sources were also collected during grant Years 2 and 3 and used to amass a body of contextual knowledge about the AMT project from multiple stakeholders. These data help ensure a comprehensive understanding of how and why the project results were achieved. Further, the triangulation of qualitative and quantitative data enable evaluators to corroborate patterns and/or identify discrepancies in data obtained through mixed methods. The general approach to analyzing qualitative data include the following concepts from interview analyses: *Life world*, to enter and understand what is being expressed by the interviewee; *Meaning*, to understand and interpret the meaning of central themes; *Specificity*, to obtain descriptions of specific situations; *Focus*, to focus the interview on themes as they emerge; *Qualitative knowledge*, to obtain qualitative knowledge as expressed by the interviewees; and *Deliberate naïveté*, to be open to any new and unexpected phenomena (Kvale, 1996). As appropriate, qualitative data were analyzed using NVivo software, and prevalent themes and emerging issues were identified. Thematic analysis focuses on identifying words or phrases that summarize the information being shared in the interviews. As such, data were segmented into passages through coding and emerging themes were identified, then the data were reviewed for replicating categories. These categories were given broad codes; finer coding was employed to identify patterns emerging within each coded set. Themes were then summarized by salient, prevalent issues.

Chapter 6: Implementation Evaluation Findings

This chapter describes the implementation of the AMT project during the first 42 months of the grant (performance period). Findings are presented by evaluation question.

I. How were the key strategies and activities of the AMT project implemented over the course of the project period?

Evaluators drew upon the findings from project records, interviews, and surveys to evaluate the AMT project's implementation across five specified strategies and discuss the successes in implementation.

Comprehensive Applied Technology Curricula

According to the original project plan, the AMT project team will (1) develop curricula, (2) prepare the technological infrastructure, (3) create well-equipped classrooms and laboratories, and (4) develop individual hybrid courses.

Overall Implementation. According to the UWA AMT Project Work Plan, the project aims to roll out 20 programs of study over the life of the grant. During the grant period, nine programs of study were successfully rolled out, including Automotive Technician, CompTIA® A+ Certification, CompTIA® Network+ Certification, Industrial Maintenance – Level I (IM-LI), Industrial Maintenance – Level II (IM-LII), Industrial Maintenance Associate of Applied Science (IM AAS), Programmable Logic Controller (PLC) Programmer, PLC Technician, and Welding¹⁷ (refer to Appendix A for a full list of programs and program descriptions). All of these programs were newly created using TAACCCT grant funding, except the Industrial Maintenance AAS program which was modified using the grant. Of those nine programs, only five were responsible for recruiting unique participants to the AMT project, including Automotive Technician, CompTIA® A+ Certification, CompTIA® Network+ Certification, IM-LI, and Welding. That is, students who were enrolled in the IM-LII, IM AAS, PLC Programmer, and PLC Technician programs were not considered unique participants as they have already completed the IM-LI program and continued their education in these programs.

All of the programs offered to the grant participants were created or modified in some way using TAACCCT funding, such as utilizing new lab equipment purchased using grant funding and revising curriculum design to ensure courses and training offered meet the needs of participants as well as local employers. The AMT project team purchased and installed all of the classroom technology and lab equipment (e.g., wireless Internet access, projectors, faculty computers, and student computer labs) required to offer these new and modified programs.

AMT project staff also developed and delivered several hybrid courses throughout the implementation period. For instance, as of the end of grant Year 2, five programs of study (i.e., Automotive Technician, IM-LI, IM-LII, PLC Programmer; and PLC Technician) were being delivered via a hybrid mode. In Year 3, two additional programs (i.e., the CompTIA® A+ and Network+ Certifications) were being delivered via a hybrid mode. To complete the programs that

¹⁷ The Welding program was not originally included in the programs of study list; it was added to the AMT project based upon requests from industry partners. This addition is aligned with the project objective to offer programs that meet local industry needs.

are being offered in a hybrid format, students are required to take some of their course sessions online and come to campus for the hands-on lab work.

Professional Development and Personnel Training

According to the original project plan, AMT project staff plan to provide four types of training to instructors, as appropriate, throughout the project period. The training expected to be offered includes: (1) curriculum training, (2) technology training, (3) competency-specific technology training, and (4) hybrid course training (i.e., blended learning). In addition to faculty training, the project also has a comprehensive training plan for coaches who provide advising and counseling services for participants. To assist in this effort, AMT project staff hired a coaching firm, called Inside Track Inc., to provide continuous training for the coaches throughout the grant period.

Overall Implementation. Throughout the performance period, AMT instructors have received informal training on various types of technology (e.g., Blackboard, Data-Tel, Retention Alert Systems, and WebAdvisor) based on their individual needs. Instructors also received ongoing specialized training from the manufacturers on the tools and instruments purchased for the AMT programs. With regard to hybrid course training, faculty members' prior experience in delivering hybrid courses is one of the key qualifications that the AMT project team looked for during the hiring process; hence, there was no need for hybrid course training for the faculty. As far as training for the coaches, it was implemented as planned. Specifically, during Year 2, the coaches received weekly training from Inside Track and have continued to receive weekly training combined with bi-monthly coach development training held in a group setting in Year 3. The training provided was delivered through various means, such as in-person sessions, phone calls, group training, and e-mail.

Multicomponent and Evidence-Based Support Strategy

According to the original project plan, the AMT project team will implement two key substrategies: (1) assessments and (2) student support services. Specifically, all participants will receive three types of assessments upon enrollment, which includes the (1) Test of Adult Basic Education (TABE) for certificate program students and the UWA's regular English and math assessments for degree students, (2) ACT® WorkKeys (i.e., job placement assessment), and (3) Sigi3 career assessment. Individuals who fail to pass the TABE will be required to take an online adult basic education module (to be developed) that results in a general education diploma before enrolling in industry courses; individuals who fail to pass the university's regular English and math assessments will take developmental courses before enrolling in degree courses. All participants are required to take the online WIN® module and complete the WorkKeys assessment that results in an Alabama Certified Worker certificate.¹⁸ Finally, the UWA's career center staff will assist the project team in conducting the Sigi3 career assessment with all project participants as a career guidance tool. The assessments to be conducted with the AMT grant are necessary to ensure that project participants are ready for postsecondary training when they enter the college. In addition, project staff plan to conduct prior learning assessments with individuals who have those experiences. The prior learning assessment will be developed and implemented in project Year 2.

To support student success and retention once the participants have enrolled, project staff have committed to provide intensive student support services through the career coaches. In particular, all project participants will

¹⁸ In fall 2013, the Alabama Regional Workforce Initiatives Coordinator announced that the Governor's Office of Workforce Development will replace Key Train with WIN® for the job readiness assessment. As such, the AMT project team is currently in the process of setting up accounts for project participants to complete the WIN® module, which assesses students' skills in locating information, listening, observation, applied mathematics, applied technology, teamwork, and reading for information.

be assigned a coach upon enrollment. The coaches will maintain frequent contact and hold meetings with each individual participant on a regular basis throughout the course of study.

Overall Implementation. During grant Year 2, AMT project staff established and followed assessment procedures and protocols (i.e., the TABE assessment, Sigi3 assessment, and ACT[®] WorkKeys) to ensure that applicants whose career goals are aligned with the targeted industries continue their application process and enroll in the appropriate programs of study. For a description of the participant eligibility criteria and to review the participant selection rubric, refer to Appendices B and C.

The assessment results for participants in Years 1, 2, and 3 are shown in Table 15.¹⁹ Specifically, while the project has consistently implemented the TABE tests throughout the project period, some challenges were encountered during grant Year 3 in getting some of the Year 2 participants and most of the Year 3 participants (especially students who were enrolled in Fall 2014, Spring 2015, and Summer 2015) to complete the WIN[®] module as well as administering the WorkKeys assessments. These challenges were perceived to be primarily due to a lack of student commitment (i.e., completion of the WIN[®] module and ACT[®] WorkKeys assessment). Specifically, according to project staff, before taking the WorkKeys assessment, students had to pass the cutoff score on the WIN[®] module. However, students often reported that they do not have time to complete the WIN[®] module due to other commitments. In order to address this challenge, project staff made the completion of the WIN[®] module a prerequisite for students enrolling in the Fall 2015 term and thereafter (the end of the performance period).

Additionally, as the project approached the end of grant Year 3, project staff started encountering some challenges with the Sigi3 assessment, primarily due to time constraints. According to project staff members, while the Sigi3 assessment helped project participants in ensuring that their choice of study is aligned with their career goals and interests, the time required to complete other tests before enrollment (e.g., the TABE tests) made it difficult to administer the Sigi3 assessment. As part of the intake process, AMT coaches interviewed and met with each participant to discuss their career goals, which was an effective approach to help participants choose the program that is best aligned with their interests. As such, project staff members decided to use the results of Sigi3 assessment as supplemental information rather than an essential component of the project.

Table 15. Participants' Assessment Status in Years 1, 2, and 3

Type of Assessment	Year 1 Participants (n = 35)	Year 2 Participants (n = 91)	Year 3 Participants (n = 81)
WIN [®] module	17 out of 35 (49%) completed the module	22 out of 91 (24%) completed the module	None of the participants completed the module
ACT [®] WorkKeys assessment	17 out of 35 (49%) took the test, and 15 (88%) passed the test	32 out of 91 (35%) took the test, and 27 (84%) passed the test	None of the participants took the assessment
Sigi3 assessment	26 out of 35 (74%) received the assessment	71 out of 91 (78%) received the assessment	None of the participants received the assessment
TABE math test	23 out of 35 (66%) passed the test; and those who did not pass the test,	65 out of 91 (71%) passed the test; and those who did not pass the test,	70 out of 81 (86%) passed the test; and those who did not pass the test,

¹⁹ The AMT project accepted the six-month performance extension from the DOL. However, all implementation data collection concluded in September 2015 as depicted in the original evaluation plan.

Type of Assessment	Year 1 Participants (n = 35)	Year 2 Participants (n = 91)	Year 3 Participants (n = 81)
	10 out of 12 (83%) completed the online module	11 out of 26 (42%) completed the online module	2 out of 11 (18%) completed the online module
TABE reading test	30 out of 35 (86%) passed the test; and those who did not pass the test, 1 out of 5 (20%) completed the online module	75 out of 91 (82%) passed the test; and those who did not pass the test, 8 out of 16 (50%) completed the online module	73 out of 81 (90%) passed the test; and those who did not pass the test, 3 out of 8 (38%) completed the online module

Note. Year 1 participants consisted of those students in the Fall 2013 cohort; Year 2 participants consisted of those students enrolled in the Spring 2014, Summer 2014, and Fall 2014 cohorts; and Year 3 participants consisted of those students enrolled in the Spring 2015, Summer 2015, and Fall 2015 cohorts.

During grant Year 2, AMT project staff developed a prior learning assessment protocol (found in Appendix D) to assess students' prior academic experiences to determine who may qualify for credits applicable towards their AMT program of study. As of the end of grant Year 3, project staff reported that they have not yet conducted any assessments with AMT students. According to project staff members, the lack of implementation in this component is primarily because the majority of AMT students did not have sufficient prior learning experiences.

In terms of providing student support services, coaches have been implementing and delivering rigorous, individualized services based on the Inside Track model. Specifically, the coaches meet formally with students on a regular basis and engage them in conversation about eight different focus areas: (1) academics, (2) finances, (3) school community, (4) commitment to graduation, (5) career choices, (6) effectiveness, (7) managing commitments, and (8) health and support. Additionally, to provide truly comprehensive support, the coaches also stay in frequent communication with the AMT instructors regarding "performance, attendance, and grade reports for each student." As shown in Table 16, coaches had frequent meetings with participants ranging from 0.40 to 3.36 times per student, and had frequent contacts (e.g., email, phone call, hallway talk) ranging from 7.50 to 18.20 times during the performance period.

Table 16. Interaction Frequencies between Coaches and Students

Data Period	Number of meetings between the coach and students				Number of contacts made between the coach and students				Number of outreach activities made by the coach			
	M	SD	Min	Max	M	SD	Min	Max	M	SD	Min	Max
Y1-Y2Q1	3.23	0.68	1	4	18.20	2.73	9	22	18.17	2.2	11	21
Y2Q2	1.80	1.30	0	4	7.50	2.06	2	11	7.69	1.74	2	11
Y2Q3	0.40	0.49	0	1	2.19	0.79	0	5	2.69	2.35	1	9
Y2Q4	1.12	0.70	0	2	9.58	7.06	0	22	8.81	6.54	1	21
Y3Q1	1.98	1.50	0	5	5.47	2.98	0	13	8.91	4.83	2	18
Y3Q2	3.36	1.44	0	6	8.47	3.98	0	17	8.94	6.21	0	24
Y3Q3	1.97	0.98	0	4	3.71	1.49	0	6	6.03	6.28	0	24
Y3Q4	2.25	0.91	0	4	8.12	4.68	3	18	9.31	6.06	1	22

Yet, student support services were not implemented without challenges. Project staff reported that the biggest challenge in terms of implementing student support services was scheduling time for the coaches to meet with the students. For example, while coaching is a requirement of the AMT program, one interviewee mentioned that “sometimes it’s kind of hard to reach out to the students.” He or she elaborated by saying, “Sometimes they may have work, sometimes they may be busy, and sometimes they might skip out on you.” To address this issue, coaches used a variety of outreach methods to get students into the office instead of simply “setting schedules” and expecting them to be there. As show in Table 15, the frequency of outreach ranged from 2.69 to 18.17 times per students during the performance period.

Interview data also revealed that instructors and coaches shared the same facility; therefore, collaboration between both parties can occur on a routine basis because of this proximity. In addition, there is an established feedback loop among the coaches, faculty, and tutors (who are selected by faculty members) to ensure student success. Aside from the one-on-one coaching, AMT project staff also offer career guidance through a number of different activities, including job searching services (i.e., resume writing and job interview workshops); “soft skills” seminars (e.g., workplace etiquette); and employer and factory visits.

Technology Usage to Enhance Accessibility and Decrease Completion Time

According to the original project plan, this strategy addresses three key components of the AMT project, including the online delivery of programs and services, multisite training, and flexible scheduling.

Overall Implementation. Throughout the performance period, the technology components proposed in the UWA AMT Work Plan have been implemented as planned. In Year 2, the project successfully rolled out and recruited participants in nine programs of study that are being offered in multiple locations, including at the

- UWA Main Campus in Livingston, Alabama (i.e., IM-LI, IM-LII, Automotive Technician, CompTIA® A+ Certification, and CompTIA® Network+ Certification programs);
- Bell Brown Career Technical Center in Livingston, Alabama (i.e., Automotive Technician program); and
- Demopolis Higher Education Center in Demopolis, Alabama (i.e., Welding certificate program).

Program offerings across these sites continued in grant Year 3. Additionally, to accommodate the need for flexible scheduling, the AMT project has been offering four-hour classes that integrate lectures and hands-on laboratory activities, offering courses in the evenings during the week, and creating flexible schedules for participants on a case-by-case basis. Lastly, as discussed under Strategy 1, as of the end of Year 3, the project has implemented hybrid course offerings across seven programs of study. These hybrid courses provide flexibility for students to complete certain courses online and come to campus for the hands-on lab work.

However, technology components were not implanted without challenges. During staff interviews, AMT project staff overwhelmingly identified students’ lack of basic computer literacy and skills as the chief barrier to utilizing technology to enhance accessibility. Recognizing that this challenge must be addressed in order to support student success, the AMT project team began providing services and training sessions to individuals as needed on topics such as how to use e-mail,

word processing software, and portable storage devices (e.g., flash drives or USB keys). Additionally, project staff also addressed challenges related to the implementation of technology in rural areas. For instance, project staff reported that they were unable to effectively implement online courses as planned because of the rural area in which UWA resides has limited Internet availability/coverage, making it difficult to reach the target population for these courses. To help resolve this issue, the project began offering relevant courses in a hybrid format to better accommodate AMT students' needs and the results have been positive.

Strategic Alignment with Partners in Industry, Education, and Workforce

According to the original project plan, the primary activities under this strategy include: (1) developing and cultivating partnerships; (2) involving industry, education, and workforce partners in an advisory committee; and (3) providing experiential learning opportunities for AMT participants. These activities are designed to facilitate participant-employer connections that may further support job placement.

Overall Implementation. Throughout the performance period, the AMT project team nurtured and expanded partnerships with existing industry partners as well as obtained new partners via various means (e.g., disseminating information through the advisory board's recruitment subcommittee and refining the outreach strategies). Below is a list demonstrating AMT project staff's efforts in the area of partnership alignment:

- In Year 1, the AMT project had a total of 23 partners (12 industry partners, three education partners, and eight workforce partners). By the end of grant Year 3, the project had a total of 37 partners (17 industry partners, 12 education partners, and eight workforce partners). Some of the partners also served as members of the advisory board and its subcommittees.
- To better facilitate student-to-employer connections, the AMT project team produced a participant profile booklet that assists in promoting participants to partner industries and potential partners for internships, co-op experiences, and job placement opportunities.
- During grant Year 2, the AMT project team worked out a plan with four existing industry partners (i.e., Georgia-Pacific, Mercedes Benz, Hyundai, and Westervelt Company) to offer experiential learning opportunities for the project participants. Two new partners, Foster Farms and Cemex Southeast, LLC, have also expressed interest in providing experiential learning and co-op opportunities for the participants. In Year 3, project staff continued to foster these types of relationships. Specifically, the vice president of Westervelt continues to promote the AMT program and has shared information about the company's internship program and related experiences with both project staff and other partners during an advisory board meeting.
- Partners also indicated that they are willing to support the AMT project in terms of hiring the program graduates. According to responses received on the Partner Survey conducted in fall 2013 and spring 2015, three out of four (75%) and five out of six (83%) industry partners reported that their company is willing to consider hiring program graduates if new positions open.

Staff interviews revealed several challenges related to partner involvement, including establishing meaningful relationships with partners, convincing partners to offer internships, finding partners whose work aligns well with the AMT programs of study, and scheduling meetings that

often fluctuate in attendance. From the partners' perspectives, similar challenges were reported in the area of meaningful partnerships and the need for two-way communication. One partner noted, "There needs to be more back and forth with the manufacturing community. Is the program working? What can we do to attract better talent? What's working well? Where do we need to improve? [There needs to be] more of a feedback loop."

Issues and challenges related to communication were also reflected in the Partner Survey data. As shown in Table 17, partners' level of involvement decreased across all of the project components from fall 2013 to spring 2015. However, when asked if they are satisfied with their current level of involvement, 50% of the respondents indicated on the fall 2013 survey that they were *satisfied* or *very satisfied* while this percentage increased by 10 percentage points to 60% during the spring 2015 administration of the Partner Survey. Additionally, when asked if they are satisfied with project staff's efforts to engage them in the project, 60% of the fall 2013 survey respondents reported that they were *satisfied* or *very satisfied* while 72% of the spring 2015 responded similarly.

Table 17. Levels of Partner Involvement in Various Project Activities

Project Activities	Fall 2013 (n = 8)		Spring 2015 (n = 18)	
	M	SD	M	SD
Participant Recruitment	3.04	1.64	1.64	0.78
Recruit incumbent workers	3.13	1.73	1.72	1.23
Recruit TAA-eligible participants	3.00	1.60	1.72	1.07
Recruit veterans or spouses of veterans	3.00	1.60	1.24	0.44
Recruit underemployed participants	3.00	1.60	1.65	0.86
Recruit long-term unemployed participants	3.13	1.73	1.47	0.87
Recruit other program participants	2.71	1.50	1.71	0.92
Curriculum design and development	3.38	1.36	2.63	1.26
Assist in curriculum design and redesign to ensure the training provided is aligned with industry needs	3.25	1.49	2.24	1.44
Identify credentials that meet industry needs	3.38	1.51	2.72	1.32
Identify important knowledge and skill sets that meet industry needs	3.50	1.41	2.89	1.28
Student support and placement services	2.63	1.38	1.83	0.91
Provide contextualized learning opportunities (e.g., paid or unpaid internships, or company visits)	2.63	1.60	1.71	1.31
Identify services needed to support participant success	2.88	1.64	2.12	1.36
Provide graduate placement services (e.g., mock interviews and assistance in developing résumés)	2.00	1.15	1.35	0.86
Provide information related to job openings in manufacturing fields to the university and the project team	2.71	1.50	2.11	1.28
Offer job opportunities for AMT program graduates	1.86	1.07	1.67	1.08
Technology and equipment support	2.00	1.29	1.65	1.37
Provide facilities and equipment for training activities	2.00	1.29	1.65	1.37
Partnership support	3.38	1.48	1.91	0.94
Assist in creating new partnerships to support project success	3.75	1.39	2.59	1.50

Project Activities	Fall 2013 (n = 8)		Spring 2015 (n = 18)	
	M	SD	M	SD
Assist in identifying adjunct instructors with the knowledge and skills to deliver the curriculum	2.40	1.95	1.24	0.56

Note. Response rates for the fall 2013 and spring 2015 survey administrations was 33% and 53%, respectively.

Job Placement and Employment Follow-up Components

This strategy focuses on the activities that support project sustainability and participant employment outcomes. Specifically, the AMT project will continue providing counseling services for graduates at least one year following program completion to ensure that they are properly placed in employment. Additionally, the project team aims to establish long-term relationships with partners to support program sustainability beyond the life of the grant.

Overall Implementation. Throughout the performance period, project staff actively provided job placement services for students. Those services and activities occurring in grant Years 2 and 3 are listed in Table 18. Overall, project staff provided support in a variety of ways, such as through group activities and individual support. In Year 2, the efforts focused on providing some group activities and individual services, as well as experiential learning opportunities. In Year 3, the efforts focused on expanding the group and individual services. Additionally, four of the students received experiential learning opportunities at partner sites.

Table 18. Job Placement Related Activities and Services in Years 2 and 3

Job Placement Activities	Year 2 (10/01/2013 – 9/30/2014)	Year 3 (10/1/2014 – 9/30/2015)
Group Activities		
Job fairs	2 (24 participants total)	4 (79 participants total)
Factory visits	6 (52 participants total)	9 (92 participants total)
Interview preparation workshop	1 (22 participants total)	1 (37 participants total)
Resume preparation workshop	2 (50 participants total)	4 (106 participants total)
Job application package preparation workshop	1 (21 participants total)	1 (17 participants total)
Job search assistance workshop	1 (24 participants total)	1 (22 participants total)
Group interviews with companies	2 (11 participants total)	2 (7 participants total)
Individual Services		
Resume assistance	5 participants	21 participants
Student referral to workforce agencies for more services	2 participants	22 participants
Set up individual interviews with companies	2 participants	6 participants
Experiential Learning Opportunities		
Job shadowing	1 participant	0 participant
Paid internship	12 participants	4 participants

2. To what extent were the key strategies and activities implemented as planned?

This set of questions examines the fidelity of implementation—to what extent the project has been implemented with high quality and a high level of participant engagement while adhering to the original plan. Specifically, four aspects of implementation were examined: *adherence*, *dosage*, *quality*, and *participant responsiveness*. A total of five fidelity assessments were conducted between grant Years 2 and 3 during the following timeframes:

T1: December 2013 (using data collected between July and December 2013)

T2: June 2014 (using data collected between January and June 2014)

T3: December 2014 (using data collected between July and December 2014)

T4: June 2015 (using data collected between January and June 2015)

T5: September 2015 (using data collected between July and September 2015)

Implementation Adherence

Adherence documents the extent to which a project has been implemented as planned. A snapshot of the AMT project's progress in implementing various strategies over time is presented in Table 19.

Table 19. Adherence of Project Implementation

Substrategies	Adherence Indicators	Adherence Level				
		T1	T2	T3	T4	T5
Strategy 1: Develop Comprehensive Applied Technology Curricula		7	13	13	13	13
Develop curricula	Developed and rolled out the Computer Information Technology program tracks (n = 9)	1	1	1	1	1
	Developed and rolled out the Mechatronics program tracks (n = 4)	1	1	1	1	1
	Developed and rolled out the Industrial Maintenance program tracks (n = 7)	2	3	3	3	3
Prepare the technological infrastructure and create well-equipped classrooms and laboratories	Renovated laboratory equipment and performed system upgrades, ensured that state-of-the-art equipment is available, and had lab equipment installed before relevant courses started or were set to start	3	4	4	4	4
Develop individual hybrid courses	At the planning stage: The project team will determine the number of hybrid courses to be developed and the timeline for course offerings in spring 2014	0	4	4	4	4
Strategy 2: Develop the Professional Development/Personnel Training Component		6	9	9	12	12
Identification and selection of instructors	Used existing instructors and are supplementing with adjunct instructors identified through partnerships with regional	3	3	3	4	4

Substrategies	Adherence Indicators	Adherence Level				
		T1	T2	T3	T4	T5
	industries, workforce development agencies, and educational institutions					
Technology training	Provided training to ensure that instructors are skilled in delivering the new curricula using technology (e.g., Blackboard and WebAdvisor) and the new lab equipment	3	3	3	4	4
Hybrid course development and training	Provided training to faculty in implementing best practices in blended-learning activities	0	3	3	4	4
Strategy 3: Develop a Multicomponent, Evidence-Based Support Strategy		13	16	16	12	10
Assessments	AMT project staff and the UWA career services office administered the ACT® WorkKeys job profiling and competency assessment (job readiness assessment)	2	3	2	2	0
	TTTests of Adult Basic Education (TABE) were administered to students seeking certificates	4	4	4	4	4
	Developed and implemented a prior learning assessment protocol that assesses students' prior work, military, and/or educational experiences (including internships and apprenticeships) for credit toward certification and degree requirements	0	2	2	2	2
Counseling/coaching	Each student received individualized, intensive, and continuous counseling services in-person and through ongoing web-based services. The services included guidance through the career transition process, assistance with overcoming obstacles, and dealing with personal problems associated with unemployment	3	3	4	4	4
Basic education	Students seeking degrees took the university's regular English and math assessments, which are used by university staff and faculty to determine each student's developmental education needs	N/A (none of the unique participants enrolled in the degree programs)				
Career pathways	All students will receive Sigi3 career planning and guidance after enrollment	4	4	4	0	0
Strategy 4: Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility		6	12	12	12	12
Online delivery of services	Delivered basic skills modules for those who did not pass the TABE	4	4	4	4	4
	All students took the WIN® module before taking the ACT® WorkKeys assessment	0	2	0	0	0
Multisite training	Offered courses on other campuses	0	4	4	4	4
Flexible scheduling	Courses that cannot be offered online were integrated into a flexible schedule, such as	2	2	4	4	4

Substrategies	Adherence Indicators	Adherence Level				
		T1	T2	T3	T4	T5
	compressed weekend courses, rotating courses to accommodate shift work, and day/evening courses					
Strategy 5: Strategic Alignment with Partners in Industry, Education, and Workforce		20	26	32	32	32
Develop and cultivate partnerships	Employment specialists reached out to potential industry partners to establish partnerships	4	4	4	4	4
	Employer partners assisted with creating standardized curricula	3	3	4	4	4
	Employer partners provided opportunities for internships, job shadowing, and skills assessment	0	3	4	4	4
Industry-service advisory committee	The Advisory Committee consisted of representatives from partner entities and the UWA AMT project's key personnel	4	4	4	4	4
	The Advisory Committee convened monthly and via electronic communication as needed	3	3	4	4	4
Industry-service advisory committee	The Advisory Committee was involved in curriculum development (Curriculum and Training subcommittee)	3	3	4	4	4
	The Advisory Committee was involved in recruitment efforts (Recruitment subcommittee)	3	3	4	4	4
Experiential learning	Employment specialists coordinated all services related to career pathways including on-site visits to employers, job shadowing, internships, and follow-up training	0	3	4	4	4
Strategy 6: Implement Job Placement and Employment Follow-up Component		3	5	5	6	6
Project sustainability	Project partners are committed to continue to support the project beyond the life of the grant	3	3	3	4	4
On-going training	Participants receive ongoing monthly counseling for at least one year following certificate or degree completion and job placement	0	2	2	2	2
Total Adherence Score**		55	81	87	87	85

Note. T1 = Reporting timeframe from July through December 2013; T2 = Reporting timeframe from January through June 2014; T3 = Reporting timeframe from July through December 2014; T4 = Reporting timeframe from January through June 2015; and T5 = Reporting timeframe from July through September 2015. Each indicator was rated on a 5-point scale: 0 = has not yet been implemented; 1 = partially implemented (low); 2 = partially implemented (medium); 3 = partially implemented (high); 4 = fully implemented.

**The T1, T2, and T3 assessment results shown in this table may be different from the results reported in the previous interim reports. Primarily, one item (i.e., *Students seeking degrees took the university's regular English and math assessments, which were used by university staff and faculty to determine each student's developmental education needs*) was removed from the table because this

item was not applicable to project participants; hence, the highest possible total scores were re-adjusted to 108 for a total of 27 indicators.

After converting the ratings into percentiles, results are shown in Figure 4. In particular, findings indicate that the project was at the 79th percentile in terms of full implementation by the end of grant Year 3, an overall 28-percentage-point increase since fall 2013 (T1 assessment). From the T4 to T5 assessment, there was a two-percentage-point decrease which was primarily due to challenges experienced with Strategy 3 in administering the assessments (i.e., WIN[®] module, ACT[®] WorkKeys assessment, and Sigi3 assessment) with participants. Specifically, during grant Year 3, project staff reported that students seem to lack commitment in completing the WIN[®] module using their out-of-school time, which is problematic because they are not able to take the WorkKeys assessment without completing it. As discussed earlier, project staff developed an action plan to overcome this challenge, which was finalized and implemented with those students enrolling in the Fall 2015 semester. Another item contributing to the lower level of implementation under Strategy 3 is the lack of implementation of the Sigi3 assessment. Due to time constraints, project staff were unable to administer the Sigi3 assessment with participants starting the second quarter of grant Year 3. Given that coaches interviewed participants individually to gain an understanding of their individual career goals and interests during the intake process, which serves as the same purpose as the Sigi3 assessment, the project team decided to remove the Sigi3 assessment as an essential component of the enrollment process as it duplicates coaches' efforts.

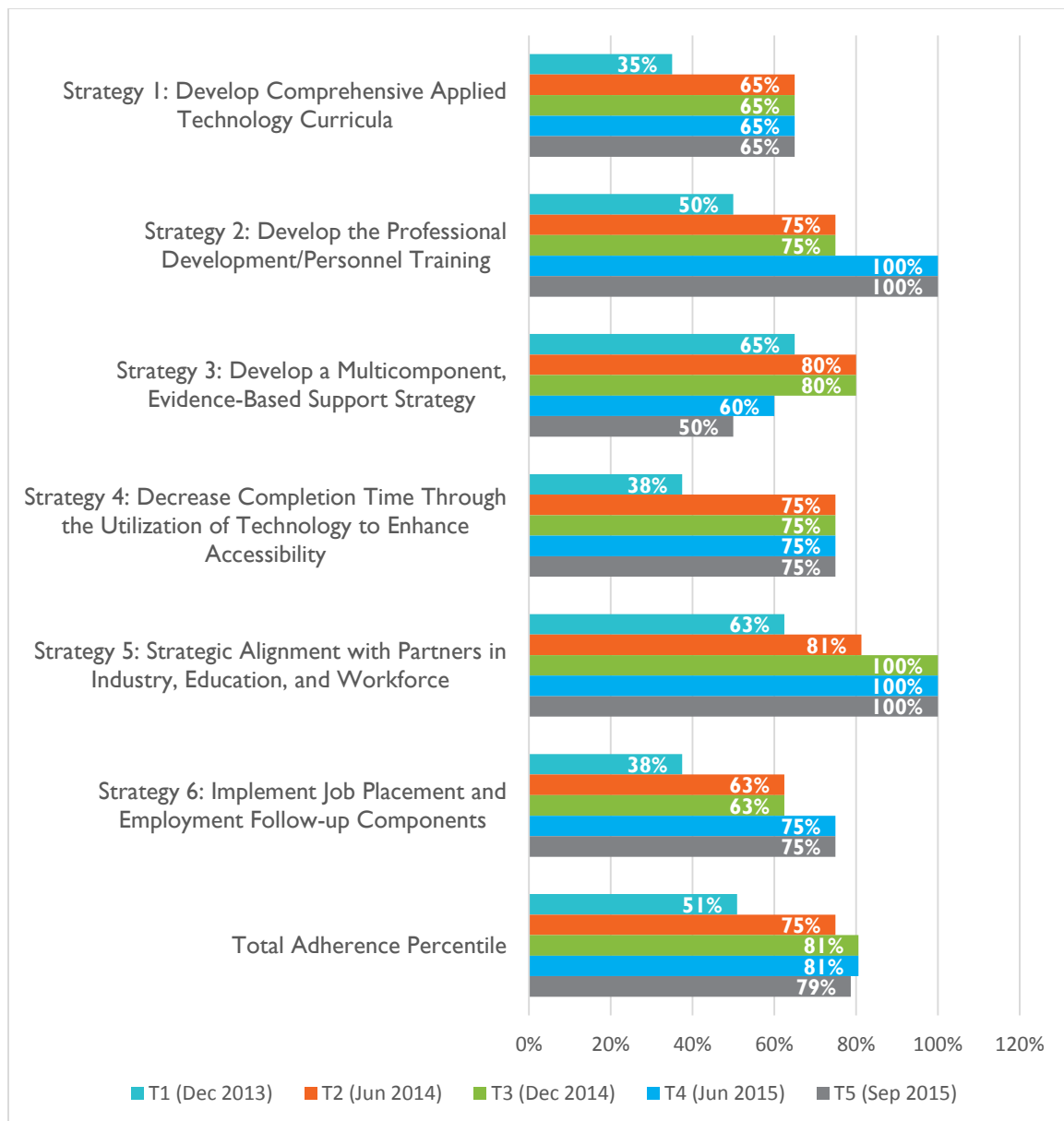


Figure 2. Adherence Findings: Percentile of Reaching Full Implementation Over Time

Across all of the AMT project strategies, two (Strategies 2 and 5) were fully implemented. That is, the project's strategy to hire instructors with existing skills and experience utilizing the new lab equipment and technology, as well as teaching hybrid courses increased the project's efficiency in implementing the newly developed courses and programs (Strategy 2). As such, limited training has been needed for AMT instructors; yet, training and support are provided if needed. Additionally, during grant Year 3, the project has continued to develop hybrid courses and revise existing online or face-to-face courses, converting them to hybrid courses to better serve AMT students. In terms of Strategy 5, project staff members' efforts to cultivate partnerships has paid off and led to various job placement and experiential learning opportunities for participants.

Regarding Strategy 1, the project is only at the 65th percentile toward full implementation primarily because only nine out of 20 proposed programs of study have been rolled out as of the end of grant Year 3. However, these nine programs were the main interests of the local industry and

employers. Therefore, while it may seem to be a weakness of the project in terms of implementation, one may view it as the strength as the project is focusing on training skilled workers that are urgently needed by the local industry and further supports the local workforce.

In terms of Strategy 6, project partners have been actively involved in job placement services and are committed to support the project's sustainability. However, project staff continued to face challenges in reaching out to program graduates once they have left the UWA.

Implementation Quality

To assess the *quality* of implementation of the AMT project, evaluators identified 28 indicators from the Student Exit Survey (20 indicators) and Partner Survey (eight indicators). Table 20 shows the results of implementation quality across each project strategy over time from the student perspective. The scores shown in Table 19 are the index scores, which have been calculated based on the percentage of Student Exit Survey respondents who endorsed the items.

Table 20. Quality Index Score by Project Strategies Over Time: Student Perspectives

Indicators	T1	T2	T3	T4	T5
Strategy 1: Develop Comprehensive Applied Technology Curricula	35	41	40	46	45
1. How likely is it that the training you are receiving here will help you to get the job you want?	8	10	8	8	10
2. How confident are you that the career training you receive here will give you the necessary knowledge and skills?	7	9	8	10	10
3. How much of what you are learning at this school do you think is irrelevant? (Note: The percentage represents the percentage of students who think what they are learning is relevant.)	5	5	8	8	5
4. How much do you know about the duties and responsibilities of the career and field in which you are receiving training?	6	8	7	10	10
5. Overall, how would you rate the quality of your training program?	9	9	9	10	10
Strategy 2: Develop the Professional Development/Personnel Training Component	16	20	17	20	20
1. How would you rate the quality of the instruction you are receiving here?	10	10	9	10	10
2. How much do the instructors and the courses make you feel like you can do the work successfully?	6	10	8	10	10
Strategy 3: Develop a Multicomponent, Evidence-Based Support Strategy	59	71	71	58	73
1. How easy is it to get answers to your questions about things related to your education and training here?	8	8	8	7	9
2. My coach was knowledgeable about his or her profession.	7	10	9	7	9
3. My coach was sensitive to my personal problems and needs.	7	8	9	7	10
4. My coach understood my career interests and goals.	7	10	9	9	9
5. My coach provided information and resources I needed to support my learning needs and career goals.	7	10	9	6	9
6. My coach worked with my faculty advisor to make sure my learning needs were met.	7	7	9	6	9

Indicators	T1	T2	T3	T4	T5
7. My coach helped me stay on track to complete my program.	8	9	9	8	9
8. Overall, how would you rate the quality of the coaching and counseling services you received?	8	9	9	8	9
Strategy 4: Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility	13	20	20	21	23
1. To what extent did your training program provide state-of-the-art lab equipment that prepared you to be competitive in the job market?	3	6	6	5	8
2. During the course of your training, did you have easy access to computers on campus to complete your coursework when you needed it?	6	9	9	10	9
3. To what extent did the technology used in your classes (such as Blackboard) improve your ability to access course and learning materials when you needed them?	4	5	5	6	6
Strategy 6: Implement Job Placement and Employment Follow-up Component	6	6	9	9	12
1. How often did your training program provide opportunities specifically to network, connect, or interact with potential employers?	3	2	4	5	5
2. How often did your training program provide opportunities for you to build a network of professional contacts (including peers, mentors, employers, and so on)?	3	4	5	4	7
Total Quality Index Student Report (QI_SR) Score	129	158	157	154	173

Note. T1 = Reporting timeframe from July through December 2013; T2 = Reporting timeframe from January through June 2014; T3 = Reporting timeframe from July through December 2014; T4 = Reporting timeframe from January through June 2015; and T5 = Reporting timeframe from July through September 2015.

After converting the quality index scores into percentiles, results are shown in Figure 5. Overall, the AMT project strategies were implemented with high quality, especially in the area of comprehensive applied technology curricula (Strategy 1), professional development and personnel training component (Strategy 2), and multicomponent and evidence-based support services (Strategy 3). Nevertheless, the quality was increased gradually over time. Compared to the other strategies, while Strategy 6 (Implement job placement and employment follow-up components) received the lowest ratings, the quality of implementation for this strategy also improved over time.

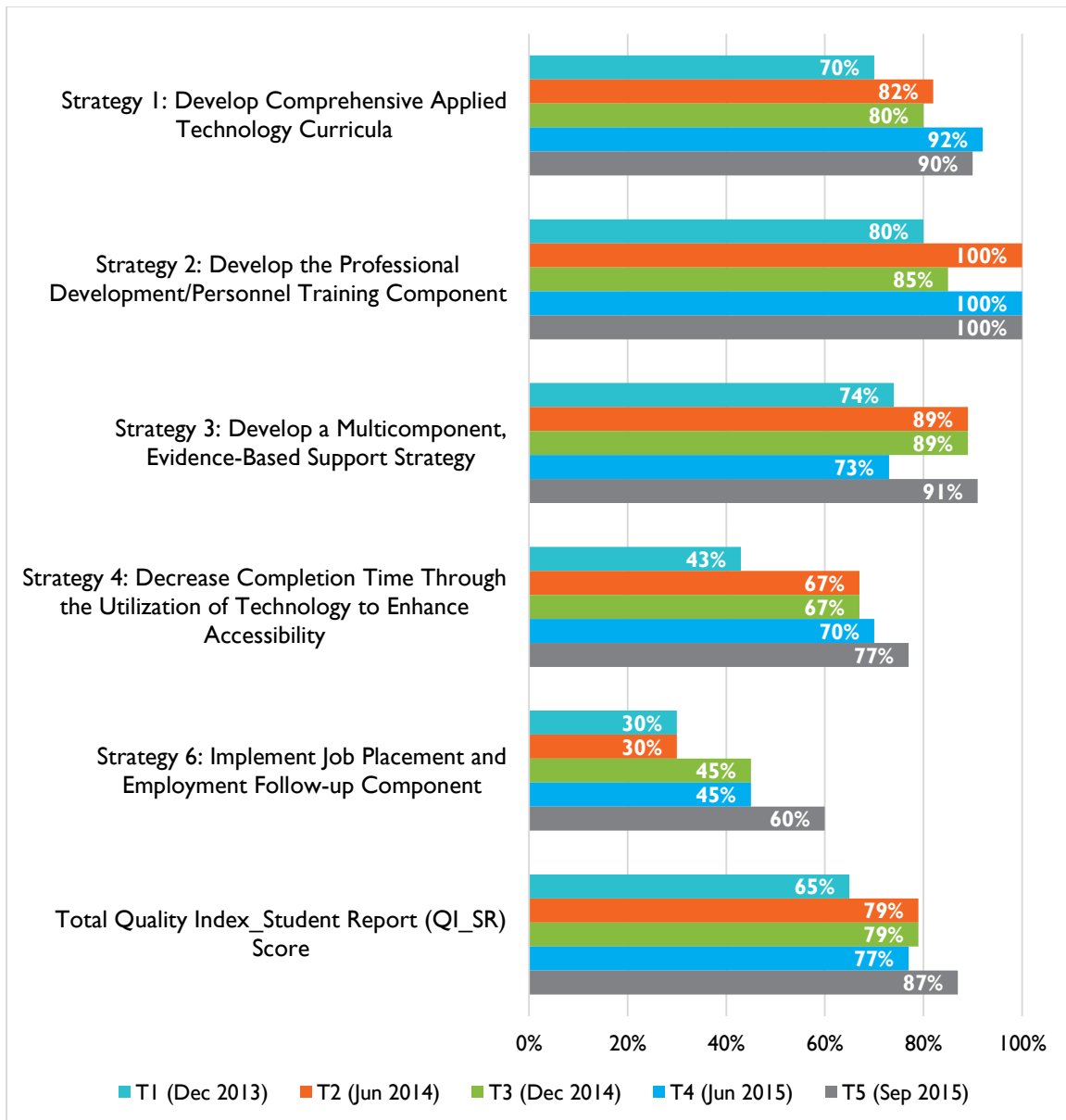


Figure 3. Participant Perspective of Implementation Quality: Percentile of Reaching the Highest Quality Index Score Over Time

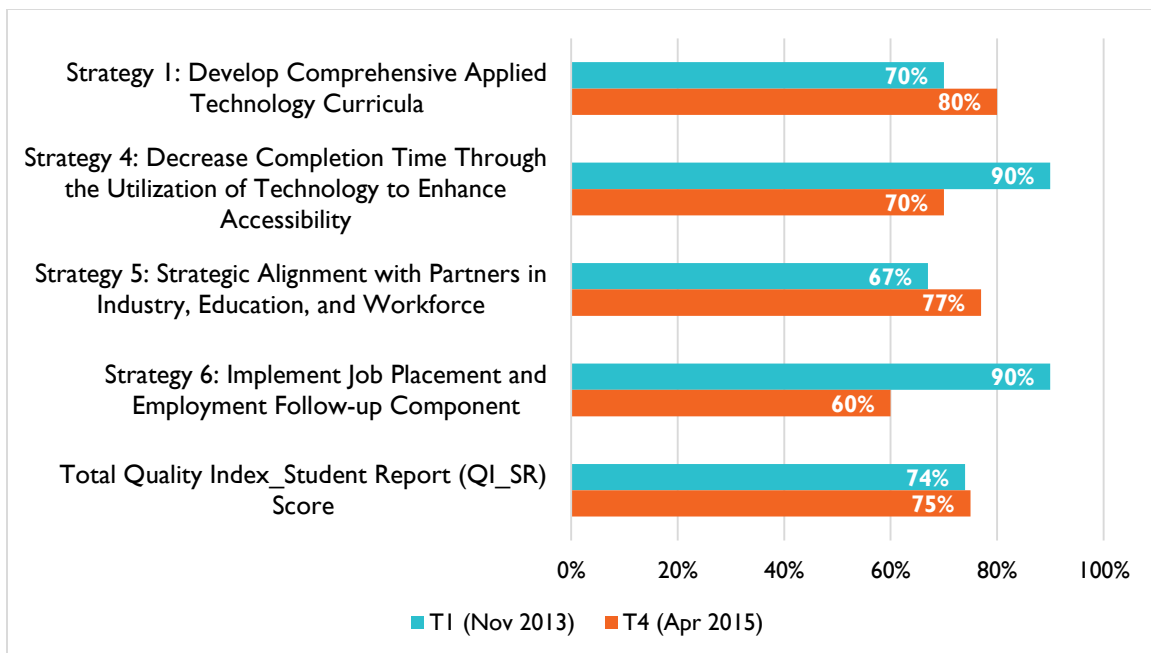
Table 21 shows the results of implementation quality across each project strategy over time from the partners' perspective.²⁰ The index scores have been calculated based on the percentage of Partner Survey respondents who endorsed the items.

²⁰ The Partner survey was only administered two times throughout the grant. The first time was administered during T1 (November 2013) and the second time was administered during T4 (April 2014) of the fidelity assessments.

Table 21. Quality Index Score by Project Strategies Over Time: Partner Perspectives

Indicators	T1 (Nov 2013)	T4 (Apr 2015)
Strategy 1: Develop Comprehensive Applied Technology Curricula	21	24
1. What is your perceived quality of the “curriculum design and development” components?	7	8
2. AMT programs offer certificate and degree programs that meet manufacturing industry needs.	7	8
3. AMT programs prepare workers with the knowledge and skills needed to be successful in the manufacturing industry.	7	8
Strategy 4: Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility	9	7
1. What is your perceived quality of the “technology and equipment support” components?	9	7
Strategy 5: Strategic Alignment with Partners in Industry, Education, and Workforce	20	23
1. What is your perceived quality of the “partnership support” components?	7	7
2. The AMT project offers programs that support local workforce development.	8	9
3. AMT programs prepare high-skilled workers who meet local industry needs.	5	7
Strategy 6: Implement Job Placement and Employment Follow-up Component	9	6
1. What is your perceived quality of the “student support and placement services” components?	9	6
Total Quality Index_Partner Report (QI_PR) Score	59	60

After converting the quality index scores into percentiles, results are shown in Figure 6. Overall, the quality of the AMT project’s implementation has been acceptable from partners’ perspectives, except the implementation of job placement and employment follow up component (Strategy 6) especially during the T4 assessment. The lower rating for this component may be attributed to the fact that partners have less direct involvement in that aspect of project implementation other than some contact with students through experiential and job placement services (e.g., mock interviews, factory visits, campus visit, job shadowing, and internships).



**Figure 4. Partner Perspective of Implementation Quality:
Percentile of Reaching the Highest Quality Index Score Over Time**

Participant Responsiveness to Project Implementation

The last component of the fidelity assessment describes *participant responsiveness* to the AMT's implementation. Evaluators identified 14 indicators related to participants' and partners' satisfaction and engagement with the project activities based on responses to the Student Exit Survey (eight indicators) and the Partner Survey (six indicators). Table 22 shows the results of participant responsiveness to implementation from the student perspective. The index scores have been calculated based on the percentage of Student Exit Survey respondents endorsing the items.

**Table 22. Participant Responsiveness Index Score by Project Strategies Over Time:
Student Perspectives**

Indicators	T1	T2	T3	T4	T5
Strategy 1: Develop Comprehensive Applied Technology Curricula	15	19	18	20	20
Overall, how satisfied are you with your training program?	7	10	9	10	10
How likely are you to recommend your training program to your friends and prospective students?	8	9	9	10	10
Strategy 2: Develop the Professional Development/Personnel Training Component	8	10	9	10	10
In general, how satisfied are you with the quality of instruction you are receiving here?	8	10	9	10	10
Strategy 3: Develop a Multicomponent, Evidence-Based Support Strategy	29	37	35	32	36
How satisfied are you with the academic advising you receive here?	7	10	10	9	10
I felt comfortable going to my coach when I had school-related problems.	8	9	9	8	8
I felt comfortable going to my coach when I had personal issues that affected my academic performance.	7	8	8	8	8

Overall, how satisfied are you with the frequency of the coaching and counseling services you received?	7	10	8	7	10
Strategy 6: Implement Job Placement and Employment Follow-up Component	7	8	8	8	8
Overall, how satisfied are you with the quality of the experiential learning opportunities in which you participated?	7	8	8	8	8
Overall Participant Responsiveness_Student Report (PRI_SR) Score	59	74	70	70	74

After converting the index scores into percentiles, results are shown in Figure 7. Overall, the majority of survey respondents indicated that they were satisfied with and engaged in the AMT program, with their level of satisfaction increasing over time across all strategies.

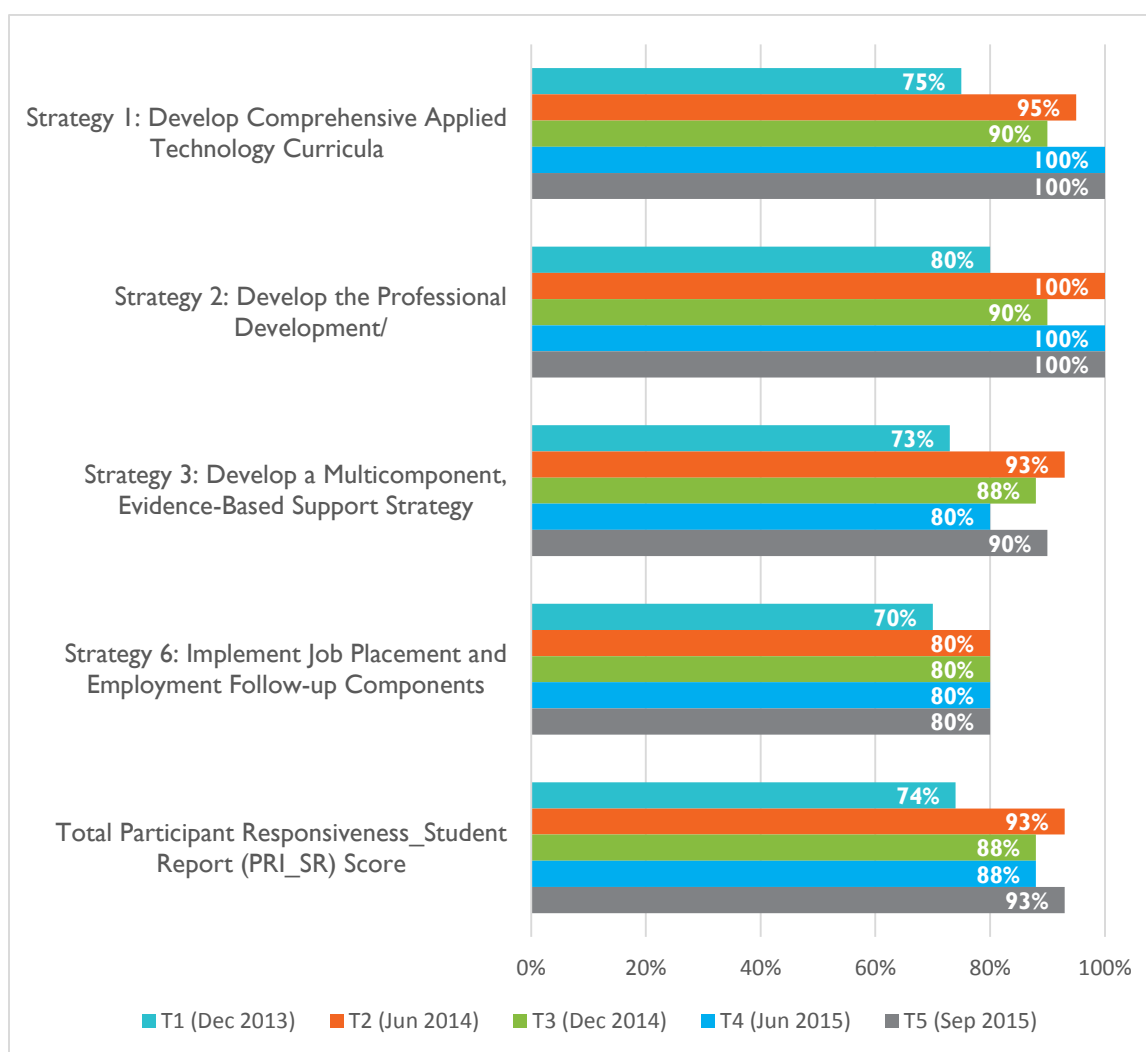


Figure 5. Participant Perspective of Participant Responsiveness to Implementation: Percentile of Reaching the Highest Participant Responsiveness Index Score Over Time

Table 23 shows the results of participant responsiveness to implementation from partners' perspectives in the area of partner involvement. The index scores have been calculated based on the percentage of Partner Survey respondents endorsing the items.

Table 23. Participant Responsiveness Index Score by Project Strategies Over Time: Partner Perspectives

Indicators	T1 (Nov 2013)	T4 (Apr 2015)
Strategy 5: Strategic Alignment with Partners in Industry, Education, and Workforce	19	24
Overall, how satisfied are you with your current level of involvement in the project?	5	7
Overall, how satisfied are you with the UWA AMT project staff's efforts to engage you in the project?	7	8
How likely are you to recommend the AMT programs to companies, organizations, and community partners with which you collaborate?	7	9
Strategy 6: Implement Job Placement and Employment Follow-up Component	26	25
The partnership between my company and the AMT programs will continue and expand beyond the life of the grant period.	7	7
I will consider collaborating with the UWA on other projects in the future.	9	9
Will your company consider hiring AMT program graduates if new positions open? (Yes/No)	10	9
Overall Participant Responsiveness_Student Report (PRI_SR) Score	45	49

After converting the index scores into percentiles, results are shown in Figure 8. Overall, partners were satisfied with the AMT project's implementation in the area of partner involvement and collaboration as well as implementation of job placement and employment follow-up components.

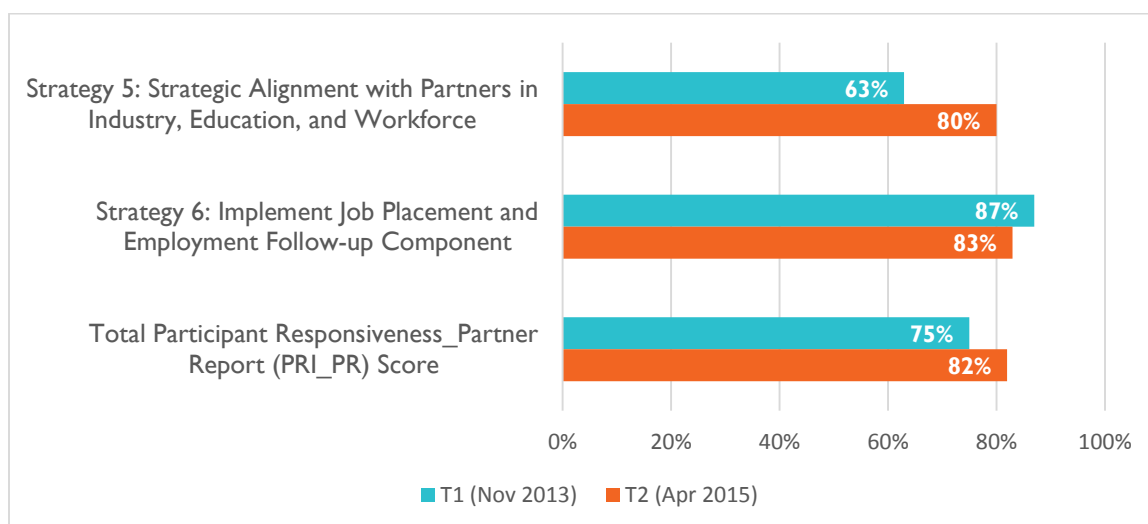


Figure 8. Partner Perspective of Participant Responsiveness to Implementation: Percentile of Reaching the Highest Participant Responsiveness Index Score Over Time

3. What changes were made to the programs of study during implementation and for what reasons?

As part of the adherence assessment, evaluators also gathered information from various sources (i.e., project records and interviews) to document any changes or modifications that have been made to the AMT project's implementation. All of the modifications made by the end of grant Year 3 are documented in Table 24. As shown, most of the modifications have been aligned with the project's objectives and goals.

Table 24. Project Modification Documentation by Project Strategy

Project Modification Documentation
Strategy 1: Develop Comprehensive Applied Technology Curricula
• The Automotive Technician and Welding certificate programs were added to the original list of training options to be provided through the AMT project. Those programs began in the Fall 2013 and Spring 2014 semesters, respectively. • To streamline limited resources, the UWA designed and built their own equipment, as opposed to receiving preassembled equipment from a training equipment provider. • The UWA secured \$100,500 in additional funding from the Delta Regional Authority to support equipment purchases for the Automotive Technician program.
Strategy 2: Develop a Professional Development and Personnel Training Component
• The UWA and the AMT project team strategically hired instructors with the skills and expertise needed to teach the hybrid courses and utilize the new equipment and technology. Hence, there was no need for professional development for the AMT instructors. If additional training was needed for certain equipment, project staff coordinated the training from the equipment vendors at little to no cost.
Strategy 3: Develop a Multicomponent, Evidence-Based Support Strategy
• AMT project staff leveraged existing UWA resources to fund the expansion of student support services (e.g., tutoring, transportation, and on-campus meals, as well as purchasing textbooks). • To accommodate a diverse group of applicants, the UWA adjusted the admissions process to allow AMT participants to bypass some of the admissions requirements, such as standardized testing score benchmarks. • Due to time constraints, project staff were unable to administer the Sigi3 assessment. However, as part of the intake process, coaches are conducting individual interviews with students to ensure that their career interests are aligned with their program selection, which serves as the same purpose as the Sigi3 assessment. Therefore, project staff started to replace the Sigi3 assessment with these individual interviews conducted by the coaches during the intake process. • Due to a lack of student commitment in completing the WIN® module on their own time, project staff modified the implementation plan for participants who will enroll in the AMT programs in Fall 2015. Specifically, students will be required to take the WIN® module as a prerequisite so that students will be ready to take the ACT® WorkKeys assessment while in the program.

Project Modification Documentation

Strategy 5: Align Strategically with Partners in Industry, Education, and Workforce

- The UWA's decision to provide training at no cost to participants significantly minimized the local career centers' direct involvement in providing participant support services; however, the career centers continue to provide advisory services.
- The advisory subcommittees are playing a less significant role in the AMT project, as project staff and partners have been addressing matters together rather than separately. This change was intended to avoid segmentation and fragmentation as well as open communication to a larger group of staff and partners.

Strategy 6: Implement Job Placement and Employment Follow-up Components

- AMT project staff faced challenges in reaching out and connecting with students after they exited their program of study; therefore, follow-up services were not implemented. Although, project staff were able to obtain a data sharing agreement with the Alabama Department of Labor to secure participants' employment and wage data; as such, the lack of implementation in delivering the follow-up services did not hinder the project's capacity to track student employment and wage outcomes.

4. To what extent is the AMT model sustainable and transferable?

During both round of interviews in Fall 2013 and Spring 2015, staff and partners were asked to describe how the AMT project team has been planning for sustainability and transferability of each project strategy. McREL evaluators also reviewed project records and identified key activities and planning that are relevant to sustainability. Table 25 summarizes the key themes that emerged.

Table 25. Preliminary Findings of Project Sustainability and Transferability

Project Sustainability and Transferability

Strategy 1: Develop Comprehensive Applied Technology Curricula

- AMT certificate programs are industry-driven and provide stakeholders with the unique opportunity to ensure that local training opportunities will produce quality, highly skilled workers who fulfill industry needs.
- The UWA continues to pursue additional funding opportunities to expand their capacity to train and support more participants.
- To meet ever-growing regional and local needs for high-skilled automotive workers, the UWA created a Technology division in which the Automotive and Welding programs are housed.
- AMT project implemented several strategies to ensure that the UWA can continue to offer AMT programs and courses after the grant. One strategy has been "interfacing" the AMT curriculum with the existing, traditional curriculum in Automotive Technician, Industrial Technology, and Welding. This strategy helps to ensure that certain courses will remain available even after the AMT project ends.
- The following AMT programs will continue to be offer through UWA
 - Certificate in Automotive Technology
 - Certificate in Welding (Demopolis, AL)
 - Certificate in IM-L1 & IM-L2
 - BS in Technology
 - BS in Engineering Technology

Project Sustainability and Transferability

- BS in Computer Information Systems
- AAS in Industrial Maintenance

Strategy 2: Develop a Professional Development and Personnel Training Component

- The UWA will continue to leverage existing resources to provide professional development, such as no-cost equipment training, to its AMT project staff and instructors.

Strategy 3: Develop a Multicomponent, Evidence-Based Support Strategy

- The UWA will continue to leverage existing resources and seek out additional funding to ensure that participants are well-equipped to successfully complete the AMT program.
- UWA has adjusted its admissions criteria for individuals seeking entrance into one of the AMT certificate programs. In lieu of taking the ACT for entrance, participants can take the WorkKeys test and score a Bronze for entrance.

Strategy 4: Decrease Completion Time Through the Utilization of Technology to Enhance Accessibility

- AMT training delivery components (e.g., flexible scheduling, multisite training, and online and hybrid curriculum delivery) are designed to alleviate common barriers experienced by nontraditional students, such as limited transportation and attending school while working full-time.

Strategy 5: Align Strategically with Partners in Industry, Education, and Workforce

- The UWA is dedicated to serving the local community by providing industry-driven training that incorporates partner needs and input. Stakeholders are actively encouraged to provide feedback and hold the university accountable for providing high-quality services that benefit the local industry and its workers.
- Partners are committed to support the AMT project beyond the life of the grant, mostly by offering internships, leveraging resources, and continuing to collaborate with UWA to address whatever needs may arise.
- UWA received additional outside funding from Alabama Power for assistance in building out the on campus Welding facility.
- UWA has received donations from Mercedes-Benz International to fund the Automotive Technology program lab.
- Through the AMT program, UWA have made several partnerships with industry who have committed to working with UWA to sustain the programs. Specifically,
 - Mercedes-Benz International renewed the partnership agreement to assist selected students through tuition and fee payments and the “earning while learning” opportunity. Through the partnership, participants would attend class three days per week and work two to three days per week.
 - As the grant concluded in Year 4, the majority of the Advisory Committees transitioned their positions to serve on the UWA College of Business & Technology Business Advisory Board that will continue to help AMT programs shape their curricula. Currently, the Board is helping UWA building a Co-Op program by piloting the Industrial Maintenance Associates of Applied Science program.

Strategy 6: Implement Job Placement and Employment Follow-up Components

- Job placement and employment follow-up services are critical to program sustainability. Stakeholders, such as local industries, workforce centers, and the UWA, have a vested interest

Project Sustainability and Transferability

in the AMT project and are committed to providing participants with experiential learning opportunities.

To assess the sustainability of the AMT project at the local level, evaluators also collected survey data from the project partners to better understand their perspectives of the project's impact on local communities. As shown in Table 26, the partners responded during both survey administration periods revealed that partners were *neutral* (a mean between 2.50 and 3.49) about the value of the AMT programs for their own company and the local industry. This is not surprising as it is challenging to offer programs that meet all partners' needs. Yet, partners did *agree* (a mean between 3.50 and 4.49) that AMT programs, in general, offers programs that meet the needs of the manufacturing industry and local industry.

Table 26. Partner Perspectives of the Project's Impact on Outcomes

To what extent do you agree with the following statements?	Fall 2013			Spring 2014		
	N	M	SD	N	M	SD
AMT programs offer certificate, diploma, and degree programs that meet industry needs.	8	4.13	0.99	18	4.00	0.77
AMT programs prepare workers with the knowledge and skills needed to be successful in the manufacturing industry.	8	4.00	0.93	18	3.94	0.64
The AMT project offers programs that support local workforce development.	8	4.25	0.89	18	4.11	0.68
AMT programs prepare highly skilled workers who meet local industry needs.	8	3.75	1.17	18	3.78	0.73
AMT programs prepare highly skilled workers who meet my company's [organization's] needs. ^a	3	3.33	1.53	18	3.33	0.84

Note. Each item was rated on a 5-point scale (1 = *strongly disagree*; 2 = *disagree*; 3 = *neutral*; 4 = *agree*; and 5 = *strongly agree*).

^a. This item was only included in the Industry Partner survey in Fall 2013; in Spring 2014, all types of partners were invited to answer this question.

Nevertheless, the majority of partners are committed to continue their involvement and support of the AMT project. Specifically, based on partner surveys collected in fall 2013 and spring 2015, 66% and 67% of respondents indicated that the partnership between their company and the AMT program will continue and expand beyond the life of the grant, respectively. Additionally, the partnerships established through this grant have the potential of expanding to other projects as well as future endeavors. Specifically, based on the responses received on the fall 2013 and spring 2015 partner surveys, 88% and 89% of the partners reported that they will consider collaborating with the UWA on other projects in the future, respectively.

In terms of transferability, one project staff member reported that he or she has been consulting with high schools and community colleges in order to transfer the knowledge gained and help them implement similar programs. Other AMT project staff members were optimistic that the project components are replicable. One interviewee mentioned, "We have an excellent model and an excellent product that surely we could sell to other grant programs." This individual also commented that transferring this program to "other funding sources is very doable." One interviewee suggested that the AMT project can expand its reach, grow, and be sustainable by allowing students to transfer credits from similar programs or by partnering with schools that already have similar programs in place. This individual posed the question: If a similar course, certificate, or degree exists nearby, why not accept it as part of the program? The interviewee expressed the opinion that this

type of action would decrease overhead, stating “I think resource allocation is [going to be] vital to making this grow.”

SGA Questions

This section specifically addresses SGA questions posed by the DOL.

SGA.Q1. How was the particular curriculum selected, used, or created?

To guide program and curriculum selection, the UWA conducted a preliminary needs assessment survey of regional businesses and industries to determine the programs, certifications, and job skill requirements. Based on their organizational capacity and expertise, the UWA initially planned to offer five industry-driven certificate programs (CompTIA® A+ Certification, CompTIA® Network+ Certification, Geographic Information Systems [GIS], IM-LI, and IM-LII). However, after the grant was funded, the UWA discovered that local industries needed skilled automotive and welding technicians; therefore, the AMT project team modified the scope of work to include additional certificate programs in those fields.

Once the certificate programs were selected, the UWA used feedback from the Curriculum and Training Advisory Subcommittee and other industry partners to expand and modify the curricula for existing program courses, adapt existing courses for the new certificate programs, and develop new courses and certificate programs that align with the university’s existing programs. Following the precedent of other universities and industry feedback, the UWA also updated degree program and course names to reflect current industry trends. For example, the UWA submitted an application to change the name of the bachelor of science degree in Industrial Technology to Applied Engineering Technology. Additionally, to design their training programs and curricula, program staff leveraged the UWA’s long-standing relationship with Sheldon State Community College (SSCC) as they modeled the AMT training programs after SSCC’s successful programs (i.e., Automotive Technician and IM-LI).

SGA.Q2. How were the programs and program design improved or expanded using grant funds?

By design, the AMT project is implementing six key strategies to support participant success in education and employment outcomes. These strategies include (1) developing comprehensive applied technology curricula; (2) developing a professional development and personnel training component; (3) developing a multicomponent, evidence-based support strategy; (4) decreasing completing time through the utilization of technology to enhance accessibility; (5) aligning strategically with partners; and (6) implementing job placement and employment follow-up services. Implementation of each core element is addressed in the Implementation Evaluation Findings section under Question F1.

SGA.Q3. What delivery methods were offered?

With regard to the delivery methods being utilized by the AMT programs of study, a variety of modes, including traditional face-to-face, hybrid, and online only formats, are being utilized to meet students’ needs. Refer to Appendix A for a complete program and course offering listing across the nine programs of study. Of the programs of study rolled out to date, five are being delivered in a hybrid mode: (1) Automotive Technician, (2) IM-LI, (3) IM-LII, (4) PLC Programmer,

and (5) PLC Technician. These programs deliver most of the course sessions online and require students to complete the hands-on lab work on campus. For courses that are taught on-campus, classroom lectures and labs are integrated, allowing instructors the freedom to alternate between demonstrations, hands-on practice, and formal lectures. The project also tailored course scheduling to accommodate AMT students' schedules and transportation limitations. For instance, instead of offering courses on the traditional university schedule (i.e., Monday/Wednesday/Friday or Tuesday/Thursday), certificate program courses were offered one day a week in four-hour increments. Additionally, the UWA offered two sections of a course (morning and afternoon sections) to meet working students' need for flexible scheduling.

SGA.Q4. What was the project's administrative structure?

The AMT project has a project director who oversees the entire grant in terms of project implementation and budgeting. Under the project director, a project coordinator was hired to manage the day-to-day operations of the AMT project. There are also several other grant-funded positions, including coaches and instructors. These positions contribute to the implementation activities of the AMT grant in various ways, although often in the form of specialized tasks (e.g., student support services, outreach and marketing, curriculum development and course delivery, and recruitment). Additionally, the AMT project has an advisory board consisting of five subcommittees that provide insight to guide the program design and implementation: (1) marketing, (2) curriculum and training, (3) recruitment, (4) funding, and (5) planning and logistics. The roles and responsibilities for each of the subgroups (subcommittees) are provided in Appendix E. Each subcommittee is led by a key project staff or UWA faculty member and consists of partners from the community, education, industry, and workforce with the group size ranging from three to nine members.

SGA.Q5. and SGA.Q6. What support services and other services were offered? Was career guidance provided and if so, through what methods?

For the AMT project, student support services (SGA.Q5) and career guidance services (SGA.Q6) were provided by the coaches who were hired using grant funds. Specifically, coaches' roles and responsibilities include:

- Meeting with participants upon enrollment to inform them of coaching and support services.
- Utilizing information from the needs assessment, career assessments, and one-on-one meetings to create a Career Pathways Plan for each student.
- Arranging regular and "as-needed" one-on-one coaching meetings to provide counseling, encouraging and motivating students, and addressing any barriers or challenges that may be impeding program completion.
- Meeting with AMT instructors regularly to identify struggling students (e.g., those who are frequently tardy, have multiple absences, or are performing at a low level) and coordinate student support efforts, such as tutoring, transportation, and child care.
- Collaborating with AMT instructors to instill good work/career habits and stress to students the importance of being on time, productive, and pleasant in the workplace.

- Assisting unemployed students as they seek job placements by linking coursework/activities to real-world industry applications, touring local industries, and working with students on their soft skills, such as interviewing and interpersonal communication.

To ensure students were aware of the services, coaches reached out to each student and beginning to build relationships with the students during the early enrollment period. As one coach shared,

During the coaching sessions, we remind them of our role. My role is basically to help them complete the program successfully and provide them with all the resources they need. We have a list with different resources on it. If they need some type of assistance outside of school, we have a resource list that we can refer to and present to the students.

Essentially, if students required any type of assistance – whether it was related to their studies (e.g., tutoring or time management/organization skills) or their personal life (e.g., financial aid, child care, or transportation) – coaches were available to help. In order to ensure that all students received the support they need, coaches took notes at each meeting and enter other information (e.g., dates of outreach to the students, frequency of contact with students, as well as date and length of coaching meetings) into a tracking document.

In order to provide comprehensive support, coaches stayed in frequent communication with AMT instructors regarding “performance, attendance, and grade reports for each student.” Two interviewees noted that faculty and coaches share the same facility, and because of this proximity, “conversations, collaboration, [and] assessment occurs on a routine basis.” There is also an established feedback loop and coaches, faculty, and tutors (who are selected by faculty members) all work together to ensure student success in their program of study. Additionally, the AMT project director met with the entire faculty once per month to “determine how things are going [related to] behavior, attitudes, job placements, who’s ranking at the top of the class, [and] who is strong in lab or classwork. [AMT project staff] have a very strong working relationship and meet very often with our faculty.”

Aside from one-on-one coaching, AMT project staff also offered participants career guidance through a number of different activities. First, they provided resume writing, job search, and job interview workshops for students. Second, they organized “soft skills” seminars (e.g., workplace etiquette) in order to better prepare students for their future interactions with employers. Third, they had manufacturing employees (e.g., plant managers and welders) visit UWA to present information about their work and schedule field trips to local manufacturing facilities so that students understood what potential employers will require of them and the kinds of work they want to do after they graduate. Lastly, project staff encouraged all students to attend the job, career, and hiring fairs being offered; collected and sent student resumes to the career center or directly to manufacturers; monitored students’ progress and recommended high-performing and/or well-qualified candidates for internships; and set up group interviews with employers, either on the UWA’s campus or at their employer’s facility.

SGA.Q7. Did the grantees conduct an in-depth assessment of participants' abilities, skills, and interests to select participants into the grant program? What assessment tools and processes were used? Who conducted the assessment? How were the assessment results used? Were the assessment results useful in determining the appropriate program and course sequence for participants?

Regarding the in-depth assessment of participants' abilities, skills, and interests, AMT project staff established and followed assessment procedures and protocols to ensure that applicants whose career goals are aligned with the targeted industry areas continue their application process and enroll in the appropriate programs of study (refer to Appendices B and C for the procedures and protocols). Accordingly, AMT participants were to receive three types of assessments upon enrollment, which included the (1) TABE for certificate program students and the university's regular English and math assessments for degree students; (2) ACT® WorkKeys assessment²¹ (i.e., a job readiness assessment); and (3) Sigi3 career assessment. All three were administered by either the project coordinator or the employment specialist/coach. A UWA staff member who is not part of the AMT project also assisted with the TABE assessment as necessary. Assessments were typically conducted at the university in one of the on-campus computer labs under the supervision of one or more of the aforementioned staff members.

Each assessment serves different purposes. The TABE assessment, in particular, was used for placement purposes. If a student did not score above the 7.0 requirement for either reading or math, they were referred to adult basic education (ABE) courses for remediation. After participating in the ABE remediation courses, students are given the opportunity to retake the TABE and can enroll in an AMT program of study after the minimum scoring requirement is met. Sigi3 is a career assessment used to determine which career pathway might be the best fit for students. One interviewee indicated that the Sigi3 is used for verification purposes and that AMT project staff want “to make sure [students] are on the right path and in the right program.” The ACT® WorkKeys assessment places students at different “levels” (e.g., bronze, silver, and platinum) of workplace readiness, which can be reviewed by employers during the hiring process. However, one interviewee noted that the ACT® WorkKeys assessment is not as useful as the other two assessments because it does not count towards a credential and very few of the AMT project partners use it as part of their hiring process.

In terms of the usefulness of the selected assessments, project staff indicated that two of the assessments (i.e., the TABE and Sigi3) were very useful in determining the appropriate program and course sequence for participants. The TABE, in particular, helped identify students who were not ready for the AMT program coursework or might benefit from being in a different program of study. For instance, if the TABE indicated that a student needed more English and math skills in order to succeed in an introductory Industrial Maintenance course, AMT project staff either referred that student to ABE remediation courses or recommended that the student consider a different program (e.g., Welding or Automotive Technician) that is more hands-on and has less emphasis on those particular skills. This interviewee also reported that the TABE assessment results were useful for evaluation purposes during the first term when a few students dropped out of the AMT programs. After evaluating their scores, AMT program staff were able to determine that an increase in the remediation benchmark was necessary to ensure that students could meet the performance expectations in their classes.

²¹ Individuals who do not pass the ACT® WorkKeys will take WIN®, a job readiness module developed by Worldwide Interactive Network, Inc. (WIN).

SGA.Q8. What contributions did each of the partners make in terms of (1) program design, (2) curriculum development, (3) recruitment, (4) training placement, (5) program management, (6) leveraging of resources, and (7) commitment to program sustainability?

Project staff reported that the partners have made significant contributions to the AMT project in several areas, most notably curriculum design, job placement, and recruitment. In terms of curriculum design, the partners have provided critical feedback, either through their participation in the advisory board or by some other means, in order to improve the course content and make the AMT programs an “attractive place for them to start recruiting.” Partners have also helped to address challenges that the AMT project has encountered. After having provided input into the curricula/program design, partners have offered internships to some of the AMT students. One interviewee described the “mutual benefit” of their collaboration by commenting, “We are raising a product for the [partners], now [they can] consider our students for internships . . . and job placements.” Finally, in terms of recruitment, the partners have sent some of their employees for training at the UWA and occasionally work around students’ class schedules so they can work and attend school at the same time. Workforce partners also disseminate project information to their clients who may be a good fit for the AMT programs. In addition, some of the partners are involved in aspects of the AMT project’s design and management through their involvement in the advisory board. Lastly, the project has received leveraged resources from partners throughout the performance period, including

- use of the Region 3 and Region 6 One Stop Centers in grant Year 1 to provide training to project staff on the assessments being utilized,
- educational partners’ assistance in developing program curricula and models for co-op experiences in grant Year 1,
- financial support for four project staff members to participate and present a booth at the Alabama Automotive Manufacturers Association Conference in grant Year 1,
- donations of iron and other products (e.g., a training vehicle) to support the Welding program in grant Years 2 and 3,
- use of the One Stop Centers and Alabama Industrial Development Training (AIDT) personnel to host job training for participants during grant Years 2 and 3,
- use of the local public education system’s vocational education center for use of automotive technology training sites while the UWA’s facility is under construction during grant Year 3, and
- technical support from the PAVES (Partnership for Accelerated Learning through Engagement, Visualization, and Simulation) Consortium partners during grant Years 1, 2, and 3.

SGA.Q9. What factors contribute 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?

According to interview data, AMT project staff expressed the perception that the partners are involved with the project because they understand the potential benefits for their company/organization. Namely, if the AMT programs can produce highly trained, quality students,

those students (and graduates, eventually) will be available to work for the partners. For this reason, the partners have “helped herd people into [the AMT project’s] arena.” This is also one of the main reasons that partners were actively involved in the project according to their responses during the interviews. In addition, the AMT program has provided some exposure for the partnering companies/organizations. One interviewee shared that this was not easy at first but indicated that “once they saw our partnership with Mercedes, we got a little bit of exposure. That’s when the other companies started to buy-in.” Now, as one interviewee explained, the partners want the program to succeed and continue to grow.

Project staff also identified several factors that may have contributed to partners’ lack of involvement in the program. First, staff from the companies/organizations are often very busy and cannot attend meetings or find time to participate in program-related activities. Second, some of the manufacturers require skills and equipment training that the AMT programs are unable to provide; therefore, the partnership was not a good “fit.” Finally, some companies may not be interested in collaborating with the UWA for undisclosed reasons. One interviewee mentioned that a few potential partners either did not respond to AMT project staff members’ inquiries or did not want to be involved after learning more about the project.

In terms of the contributions that have been most critical to the success of the grant, project staff identified several areas, including providing candid feedback on the curricula and skill requirements, which was essential in aligning the AMT programs of study with partners’ needs; offering experiential learning opportunities (e.g., internships) to students; providing financial assistance to support facility renovations; and facilitating connections to other partners who might be interested in collaborating with the UWA on the AMT project. Project staff also identified two types of feedback from partners that had less of an impact on the AMT program. First, project staff received some specific feedback from partners about individual students who had already graduated from the AMT programs. In most cases, project staff were unable to address the partners’ concerns as these individual students were no longer receiving AMT training. Second, project staff indicated that some of the partners contributed very little when they were in attendance at the meetings. To help the program improve, project staff expect partners to be actively involved in the meetings and discussions. While agreeing with project staff that active involvement during the meetings is critical, one partner suggested that sending out meeting agendas ahead of time and providing opportunities for interactive discussions may open the window for effective and meaningful participation in the meetings.

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Appendices

Appendix A: AMT Programs of Study

Table A-I. Overview of AMT Programs of Study

Program of Study	Type of Program	Program Length	Credit Hours	Location
Industrial Maintenance				
Industrial Maintenance Level I	Certificate	16 weeks	12	UWA Main Campus (Livingston)
Industrial Maintenance Level II	Certificate	16 weeks	12	UWA Main Campus (Livingston)
Industrial Maintenance	AAS	2 years	60	UWA Main Campus (Livingston)
Industrial Information Technology	AAS	TBD	TBD	UWA Main Campus (Livingston)
PLC Technician	Certificate	8 weeks	15	UWA Main Campus (Livingston)
PLC Programmer	Certificate	8 weeks	18	UWA Main Campus (Livingston)
Welding	Certificate	32 weeks	24	New Era Building, Demopolis Higher Education Center (Demopolis)
Mechatronics				
Automotive Technician	Certificate	1 year	27	UWA Main Campus (Livingston); Bell Brown Career Technical Center (Livingston)
Industrial Robotics	Certificate	TBD	TBD	UWA Main Campus (Livingston)
Industrial Electronics	Certificate	TBD	TBD	UWA Main Campus (Livingston)
Electrical Maintenance	AAS	TBD	TBD	UWA Main Campus (Livingston)
Computer Information Technology				
CompTIA® A+ Certification	Certificate	8 weeks	3	UWA Main Campus (Livingston) [online]
CompTIA® Network+ Certification	Certificate	8 weeks	3	UWA Main Campus (Livingston)
Computer Information Systems	AAS	TBD	TBD	UWA Main Campus (Livingston)
Computer Information Technology	AAS	TBD	TBD	UWA Main Campus (Livingston)
Computer Information Systems	BS	4 years	123	UWA Main Campus (Livingston)
Computer Information Technology	BS	4 years	TBD	UWA Main Campus (Livingston)
Geographic Information System (GIS)	Certificate	48 weeks	21	UWA Main Campus (Livingston)
Industrial Technology	BS	4 years	123	UWA Main Campus (Livingston)
Technology	BS	4 years	120	UWA Main Campus (Livingston)

Table A-2. Industrial Maintenance Level I

Course #	Course Title	Credit Hours	Course Description	Delivery Method	Location
TY 210	Total Productive Maintenance and Mechanical Systems	3	A study of mechanical systems used in industry such as couplings, bearings, and lubricants, which enables industrial equipment to run at a high rate of efficiency and longevity. This course includes concepts and practices of total productive maintenance.	Hybrid	UWA Main Campus-Livingston, AL
TY 221	AC/DC Circuit Theory	3	Instruction in basic electrical/electronic principles related to AC/DC theory and methods of applying this knowledge to various circuits as used by industry. Includes introduction to discrete semi-conductors, amplifiers, power supplies, and digital electronics.	Hybrid	UWA Main Campus-Livingston, AL
TY 240	Fluid Power	3	Basic laws, principles, and components found in a fluid power system used in industry.	Hybrid	UWA Main Campus-Livingston, AL
TY 271	Electrical Motor Controls	3	A study of theory and operation of electric motor controllers as used by industry.	Hybrid	UWA Main Campus-Livingston, AL

Table A-3. Automotive Technician Program

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
Fall Term					
AU 201	Fundamentals of Automotive Technology	3	This course provides basic instruction in Fundamentals of Automotive Technology.	Hybrid	UWA Main Campus-Livingston, AL
TY 210	Industrial Mechanics	3	A study of mechanical systems used in industry such as couplings, bearings, and lubricants, which enables industrial equipment to run at a high rate of efficiency and longevity. This course includes concepts and practices of total productive maintenance.	Hybrid	UWA Main Campus-Livingston, AL
AU 221	Electrical and Electronic Systems	3	This is an introductory course in automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components.	Hybrid	Bell Brown Career Technical Center (BBCTC)-Livingston, AL
Spring Term					
AU 231	Engine Repair		This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation.	Hybrid	BBCTC-Livingston, AL
AU 241	Braking Systems	3	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of brakes.	Hybrid	UWA Main Campus-Livingston, AL

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
AU 251	Steering and Suspension	3	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of steering and suspension.	Hybrid	UWA Main Campus-Livingston, AL
Summer Term					
AU 271	Drivetrains and Axles	3	This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four-stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation.	Hybrid	BBCTC-Livingston, AL
AU 232	Engine Performance	3	This course provides basic instruction in automotive drive trains and axles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and drivability.	Hybrid	BBCTC-Livingston, AL
AU 261	Human Relations	3	This course provides basic instruction in engine performance with emphasis on fuel and ignition systems relating to engine operation.	Face-to-Face	UWA Main Campus-Livingston, AL

Table A-4. Welding Program

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
Spring Term					
WT 111	SMAW Fillet/Oxyfuel Gas Cutting (OFC)	3	Instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. Also covers rules of basic safety and identification of shop equipment. Provides the skills and knowledge necessary for the safe operation of oxy-fuel cutting.	Face-to-Face	Demopolis Higher Education Center (DHEC)/ New Era Building-Demopolis, AL
WT 112	SMAW Fillet/OFC - Lab	3	Introduces the proper set-up and operation of the SMAW equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. Also provides instruction in the safe operation of oxy-fuel cutting. Upon completion, the student should be able to make fillet welds in all positions using electrodes in the F-3 groups in accordance with applicable welding code and be able to safely operate oxy-fuel equipment and perform those operations as per the applicable welding code.	Face-to-Face	DHEC/ New Era Building-Demopolis, AL

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
WT 131	SMAW Fillet/ Plasma Arc Cutting (PAC)/ Carbon Arc Cutting (CAC)	3	Instruction on safety practices and terminology in the SMAW process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. Also covers the rules of basic safety and identification of shop equipment. Provides the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL
WT 132	SMAW Fillet/PAC/CAC - Lab	3	Introduction to the proper set-up and operation of the SMAW equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. Also provides instruction in the safe operation of plasma arc and carbon arc cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-4 groups in accordance with applicable welding code and be able to safely operate plasma arc and carbon arc equipment and perform those operations as per applicable welding code.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL
Summer Term					
WT 121	Gas Metal Arc/Flux Cored Arc Welding	3	Introduces the student to gas metal arc and flux cored arc welding process. Emphasis is placed on safe operating practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques, and base and filler metal identification.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL
WT 122	Gas Metal Arc/Flux Cored Arc Welding - Lab	3	Instruction and demonstration using the various transfer methods and techniques to gas metal arc and flux cored arc welds. Topics include safety, equipment set-up, joint design and preparation, and gases.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL
WT 141	Shielded Metal Arc Welding Groove	3	Instruction on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up. Upon completion, the student should be able to identify the proper joint design, joint preparation and fit-up of groove welds in accordance with applicable welding codes.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL
WT 142	Shielded Metal Arc Welding Groove - Lab	3	Instruction and demonstrations in the SMAW process on carbon steel plate with various size F-3 and F-4 group electrodes in all positions. Emphasis is placed on welding groove joints and using various F-3 and F-4 group electrodes in all positions. Upon completion, the student should be able to make visually acceptable groove weld joints in accordance with applicable welding codes.	Face-to-Face	DHEC/ New Era Building- Demopolis, AL

Table A-5. Industrial Maintenance Level II

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
TY 222	Solid State/ Digital Electronics	3	The course introduces the semiconductor fundamentals and applications to the electronic devices. Topics include number systems, medium and large scale integrated circuits, Analog-to-Digital (A/D) and Digital-to-Analog (D/A) converters, Boolean algebra, logic families and binary segment decoding. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.	Hybrid	UWA Main Campus-Livingston, AL
TY 230	Basic Blueprint Reading and Drafting	3	The application of basic blueprint reading-drafting techniques and procedures.	Hybrid	UWA Main Campus-Livingston, AL
TY 250	Workplace Safety and Health	3	Safety, hazard and catastrophe control, environmental concerns, laws, personal safety and health, workforce safety training and development.	Hybrid	UWA Main Campus-Livingston, AL
TY 272	Electromechanical Controls	3	This course will provide an understanding of basic and advanced electrical controls used to operate industrial control systems and processes.	Hybrid	UWA Main Campus-Livingston, AL

Table A-6. Programmable Logic Controller (PLC) Technician

Course #	Course Title	Credit Hours	Program Description	Delivery Method	Location
TY 210	Total Productive Maintenance and Mechanical Systems	3	A study of mechanical systems used in industry such as couplings, bearings, and lubricants, which enables industrial equipment to run at a high rate of efficiency and longevity. This course includes concepts and practices of total productive maintenance.	Hybrid	UWA Main Campus-Livingston, AL
TY 221	AC/DC Circuit Theory	3	Instruction in basic electrical/electronic principles related to AC/DC theory and methods of applying this knowledge to various circuits as used by industry. Includes an introduction to discrete semi-conductors, amplifiers, power supplies, and digital electronics.	Hybrid	UWA Main Campus-Livingston, AL
TY 240	Fluid Power	3	Basic laws, principles, and components found in a fluid power system used in industry.	Hybrid	UWA Main Campus-Livingston, AL
TY 271	Electrical Motor Controls	3	A study of theory and operation of electric motor controllers as used by industry.	Hybrid	UWA Main Campus-Livingston, AL
TY 281	PLC I	3	The structure of PLCs, operational principles, capabilities, limitations, input/output devices, symbols, and functions including principles and operating characteristics of various instruments and process controls used by industry.	Face-to-Face	UWA Main Campus-Livingston, AL

Note. Students enrolled in the program were those who completed Industrial Maintenance – Level I and continued their education.

Table A-7. PLC Programmer

Course #	Course Title	Credit Hours	Program Description	Method	Location
TY 210	Total Productive Maintenance and Mechanical Systems	3	A study of mechanical systems used in industry such as couplings, bearings, and lubricants, which enables industrial equipment to run at a high rate of efficiency and longevity. This course includes concepts and practices of total productive maintenance.	Hybrid	UWA Main Campus-Livingston, AL
TY 221	AC/DC Circuit Theory	3	Instruction in basic electrical/electronic principles related to AC/DC theory and methods of applying this knowledge to various circuits as used by industry. Includes an introduction to discrete semi-conductors, amplifiers, power supplies, and digital electronics.	Hybrid	UWA Main Campus-Livingston, AL
TY 240	Fluid Power	3	Basic laws, principles, and components found in a fluid power system used in industry.	Hybrid	UWA Main Campus-Livingston, AL
TY 271	Electrical Motor Controls	3	A study of theory and operation of electric motor controllers as used by industry.	Hybrid	UWA Main Campus-Livingston, AL
TY 281	PLC I	3	The structure of PLCs, operational principles, capabilities, limitations, input/output devices, symbols, and functions including principles and operating characteristics of various instruments and process controls used by industry.	Face-to-Face	UWA Main Campus-Livingston, AL
TY 282	PLC II	3	Advance instruction in PLCs that include programming logic functions, data handling, PLC networks, and troubleshooting and servicing PLC systems.	Face-to-Face	UWA Main Campus-Livingston, AL

Note. Students enrolled in the program were those who completed Industrial Maintenance – Level I and continued their education.

Table A-8. CompTIA® A+ Certification

Course #	Course Title	Credit Hours	Program Description	Method	Location
CS 215	Total Productive Maintenance and Mechanical Systems	3	This course provides students with the knowledge and skills needed to acquire an entry-level position as PC Technicians or IT Professionals. Material covers topics from the Computing Technology Industry Association (CompTIA) A+ certification exam.	Online	UWA Main Campus-Livingston, AL

Note. The program was first rolled out in the summer of 2014. This course is designed to prepare students who are interested in obtaining the CompTIA® A+ Certification. Students who complete the course will need to take two parts of the national examination and pass both parts to obtain the certification. However, if students pass the course at UWA but do not earn the certification, they will still earn college credits for the course.

Table A-9. CompTIA® Network+ Certification

Course #	Course Title	Credit Hours	Program Description	Method	Location
CS 285	Comp TIA Network + (Network Maintenance & Support)	3	This course provides students with the knowledge and skills needed to acquire an entry level position as PC Networker or IT Professionals. Material covers topics from the Computing Technology Industry Association and building networks.	Face-to-Face	UWA Main Campus-Livingston, AL

Note. The program was first rolled out in the summer of 2015. This course is designed to prepare students who are interested in obtaining the CompTIA® Network+ Certification. Students who complete the course will need to take two parts of the national examination and pass both parts to obtain the certification. However, if students pass the course at UWA but do not earn the certification, they will still earn college credits for the course.

Appendix B: AMT Participant Eligibility Criteria

Applied Manufacturing Technology Program Basic Criterion for Selection

Age:	18 and older
Type of Learner:	Adult Learner
Employment Status:	Unemployed or Underemployed
Military Status:	Veteran, Spouse of Veteran, Child of Veteran (<i>Priority Consideration</i>)
TAA Status:	TAA Certified Worker or Other Adult meeting SOW Criterion (<i>Priority Consideration</i>)
Educational Background:	High School Diploma or GED
Basic Education Skills Level:	Basic Skills Proficient (<i>New Level 8.0</i>)
Enrollment Status:	Seeking full-time enrollment
Skill Level:	Low Skilled
Wage Level:	Low Waged
Primary Residence by County:	Sumter, Greene, Marengo, Hale, Dallas, Pickens, Choctaw, Wilcox (<i>Priority Consideration</i>)
Educational Goal:	Earn an industry recognized credential offered through UWA advanced manufacturing technology program.
Career Interest:	Mechatronics, Computer Information Technology, Industrial Maintenance
Career Goal:	Obtain a higher-waged, higher-skilled occupation or gain employment after completing a UWA TAACCCT grant funded program.

Appendix C: AMT Participant Selection Rubric

THE UNIVERSITY OF WEST ALABAMA

L I V I N G S T O N

Candidate Name: _____ Date of Application: _____ Score: _____/36

Category	4	3	2	1
Application	All requested information was complete and received with no follow up needed	Most of requested information was complete and received with little follow up needed	Some of requested information was complete and received with fair amount of follow up needed	Very few or none of requested information was complete and received even with continuous follow up
Employment Status	Unemployed or underemployed within 6-12 months with work history	Unemployed for greater than 12 months with work history	Unemployed for greater than 12 months with little/no previous work history	Currently Employed/Needing Skills for High Wage/High Skilled Jobs
Target Age	24+ Years of Age	23-21 Years of Age	20-19 Years of Age	18 Years of Age
TAA/Veteran/WIA Adult (Priority)	TAA Eligible Adult	Veterans (Including Spouses & Dependents)	WIA Eligible Adults	Other Adult
Career Interest Inventory [O*Net Interest Profiler]	Career interest inventory results are fully aligned with program of interest	Career interest inventory results are adequately aligned with program of interest	Career interest inventory results are partially aligned with program of interest	Career interest inventory results are minimally aligned with program of interest
TABE -Reading	Scored 11.2+	Scored 11.1-9.0	Scored 9.0-7.0	Scored <6.9
TABE-Mathematics Combined	Scored 11.2+	Scored 11.1-9.0	Scored 9.0-7.0	Scored <6.9
Related Goals	Exceeds expectations & fully described goals as related to program objectives	Meets expectations & adequately described goals as related to program objectives	Acceptable & partially described goals as related to program objectives	Unacceptable & minimally described goals as related to program objectives
Interview/Attire (Notes)				

Notes:

Completed by: _____

Scoring Rubric

10/28/2013

UWA AMT Program-SP2014

Appendix D: AMT Prior Learning Assessment Protocol

The application of technical credit towards programs in the University of West Alabama's (UWA's) Advanced Manufacturing Technology (AMT) program or the UWA associate and bachelor degrees in technology will be managed by the chair of the Division of Computer Information Systems and Technology and approved by the associate dean for the College of Business.

Prior learning credit may be assigned upon evaluation of a participant's experience and will be conducted on a case-by-case basis. The following credit conversion chart will be used to determine the amount of credit allowable for acceptance. Students enrolling in the UWA AMT programs may be required to present documentation of hours worked, job descriptions, and/or confirmation of employment, or have a review of prior certifications earned. Potential students wishing to transfer technical credit earned may transfer up to 32 hours as part of an associate's degree program or up to 42 hours towards the Bachelor of Science in Technology degree.

Bachelor of Science Degree: Technology Major			
Technical Credit Conversion Table			
Semester Hours	Quarter Hours	Clock Hours	CEUs
1/2	0.75	20	2
1	1.5	41	4
2	3	81	8
3	5 (27) = 135	135/10 = 13.5	14
4	6	162	16
5	8	203	20
13	20	527	53
14	21	567	57
15	23	621	62
17	26	689	69
19	29	770	77
20	30	810	81
25	38	1,026	103
32	48	1,296	130
36	54	1,458	146
42	63	1,701	170
43	65	1,755	176
48	72	1,944	194
Academic Credit Conversion Table			
Semester Hours	Quarter Hours	Clock Hours	Minutes
3	5	37.5	2,250

Note. CEUs = Continuing Education Units

Technical Credit: 135.0 clock hours = 3 semester hours

Academic Credit: 37.5 clock hours = 3 semester hours

Internship Credit: 280 clock hours = 3 semester hours @ 20 hours per week (5 days) for 14 weeks

Experiential Credit: Course numbers (200 level), course titles, and a grade of P (pass) will be assigned for experiential work.

Appendix E: Advisory Subcommittee Roles and Responsibilities

Marketing: The Marketing Committee's purpose is to assess, develop, and implement strategies and tactics to effectively brand, differentiate, and promote the University of West Alabama's (UWA's) Advanced Manufacturing Technology (AMT) program and to enhance the visibility and accessibility of the program to our target market, the UWA community, and to the public. Goals, objectives, strategies, and metrics will be used to measure the relevancy and progress of the committee while providing implementation guidelines. Currently, there are six members in this subcommittee. *Strategies addressed: 1-6, only as they relate to marketing the programs.*

Curriculum and Training: The Curriculum and Training Committee's purpose is to advise the faculty on significant curricular issues such as instructional quality, curricular innovation, and to ensure the curriculum is industry driven and meets industry needs. Goals, objectives, strategies, and metrics will be used to measure the relevancy and progress of the committee while providing implementation guidelines. Currently, there are nine members in this subcommittee. *Strategies addressed: 1, 2, 4, and 5.*

Recruitment: The Recruitment Committee's purpose is to assess, develop, and implement strategies and tactics to effectively recruit participants and industry partners for the AMT programs. Goals, objectives, strategies, and metrics will be used to measure the relevancy and progress of the committee while providing implementation guidelines. There are nine members under this subcommittee. *Strategies addressed: 3, 4, 5, and 6.*

Funding: The Funding Committee's purpose is to identify and recommend funding opportunities from external sources of support for the enhancement of the AMT program and future programs. Goals, objectives, strategies, and metrics will be used to measure the relevancy and progress of the committee while providing implementation guidelines. There are three members under this subcommittee. *Strategies addressed: 3 and 4.*

Planning and logistics: The Planning and Logistics Committee's purpose is to take a leadership role in defining and driving the adoption of common processes for planning and enabling the efficient and effective flow services provided to students and recommendations from industry partners. Goals, objectives, strategies, and metrics will be used to measure the relevancy and progress of the committee while providing implementation guidelines. There are eight members under this subcommittee. *Strategies addressed: 3 and 4.*