

DoL TAACCCT Round 3 – Nevada Consortium

Summative report

A Department of Labor

Trade Adjustment Assistance Community College and Career Training grant
Grand Basin College, Truckee-Meadows Community College, Western Nevada College

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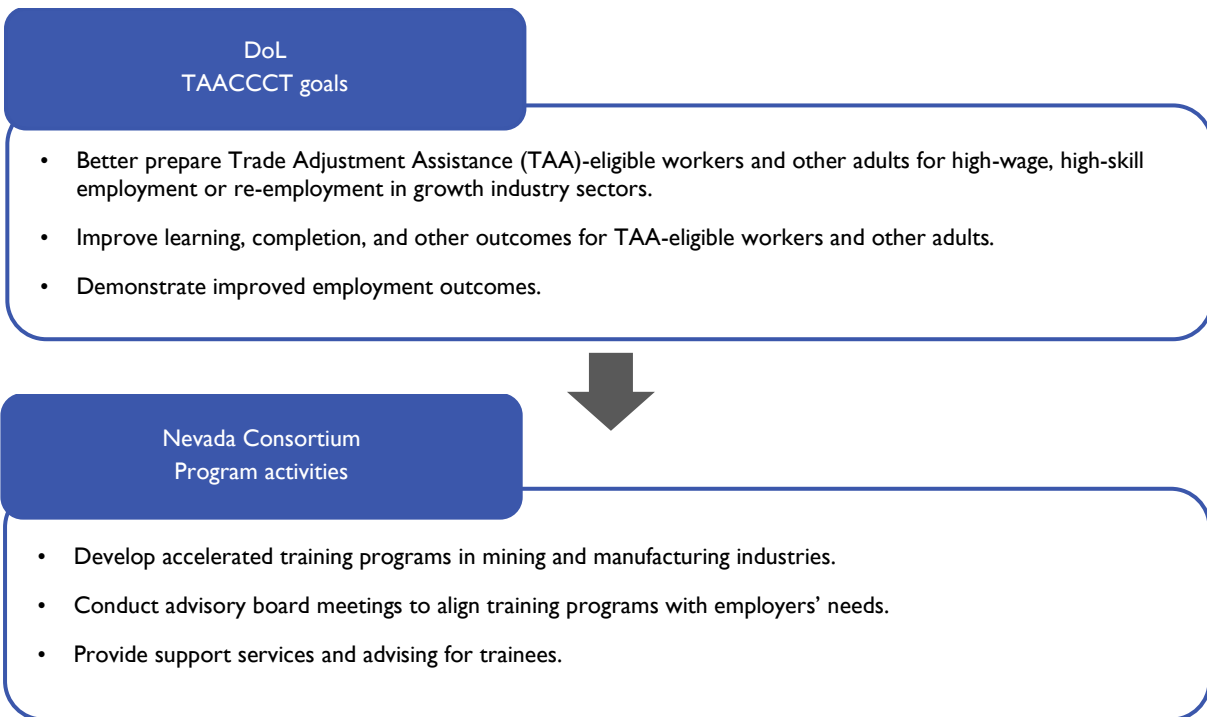
Contents

Executive summary	1
TAACCCT program description	1
Evaluation design	1
Impact study.....	3
Implementation study findings.....	3
Conclusions	4
Program background.....	5
Goals of the U.S. Department of Labor TAACCCT Program	5
Nevada Consortium project goals.....	5
Project components	7
Report terms	7
Evaluation methods.....	8
Analysis methods.....	9
Limitations.....	9
Evaluation participants.....	10
Student demographics	10
Alumni demographics.....	11
Instructor demographics	12
Employer demographics.....	13
Impact study	14
Employment outcomes	14
Implementation study	16
Overview of implementation outputs	16
Alignment of training to employer needs – Nevada Consortium goal 1	18
Employer satisfaction with alignment	21
Accelerated training – Nevada Consortium goals 2 & 3	22
Usefulness of support services – Nevada Consortium goals 4 & 5.....	25
Summary and conclusions	26
Appendix A – Sample evaluation instruments	i
Appendix B – Employment by college.....	xxviii
Appendix C – Advisory board recommendations	xxxix
Appendix D – Advisory board impact on technical skills	xxxiv
Appendix E – Advisory board impact on soft skills	xxxv
Appendix F – Advisory board impact on employability.....	xxxvi
Appendix G – Advisory board impact on career readiness.....	xxxviii

Executive summary

TAACCCT program description

In October 2013, the Nevada Consortium of Great Basin College (GBC), Truckee Meadows Community College (TMCC) and Western Nevada College (WNC) received a Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant to help adults succeed in acquiring the skills, degrees, and credentials needed for high-wage, high-skill employment while also meeting the needs of employers for skilled workers. The Nevada Consortium developed their program activities with the aim to achieve the Department of Labor (DoL) TAACCCT goals. Through these activities, the Nevada Consortium ultimately aims to improve graduates' career prospects, retention, and wages. The following chart outlines the TAACCCT program goals and program activities implemented by the Nevada Consortium to achieve these goals.



Evaluation design

The evaluation sought to determine to what extent the Nevada Consortium met its goals and how those processes contributed to overall DoL goal achievement in Nevada. Over the course of the project, the evaluator developed and utilized various evaluation tools and archival data sources to evaluate the implementation and impact of the TAACCCT-funded programs in the Nevada Consortium. The tools and data sources include surveys for students, alumni, instructors, and local industry employers; records of advisory board meeting minutes; the Nevada Consortium's archival data of support services; and Nevada's Department of Employment, Training, and Rehabilitation (DETR) employment data.

The impact study reports the Nevada Consortium’s achievement of DoL goals by describing students’ attainment of full-time employment and employment within their field of study using self-reported records and DETR tracking data provided by program leaders.

The implementation study reports the extent to which the Nevada Consortium conducted various TAACCCT program activities, and the extent to which students who participated in TAACCCT-funded program activities found them satisfactory and useful in helping them achieve their academic and career goals. The evaluator supplemented these findings with instructors’ perceptions of the influence advisory board recommendations had on students’ technical skills, soft skills, employability, and ability to succeed in their careers. The following table lists evaluation activities and the concepts they measured over time. The majority of students (74%) and instructors (88%) responded to surveys while only 5% of all alumni and non-completers responded. As some participants did not provide contact information or specifically requested not to be contacted, the response rates do not represent the entire population of each group.

Evaluation activities	Evaluation participants	Concepts measured
Student evaluation form	<ul style="list-style-type: none"> • Program completers 	<ul style="list-style-type: none"> • Student perception of support services • Student perception of course usefulness
Alumni survey	<ul style="list-style-type: none"> • Alumni • Non-completers 	<ul style="list-style-type: none"> • Student perception of course impact
Instructor survey	<ul style="list-style-type: none"> • TAACCCT program instructors 	<ul style="list-style-type: none"> • Advisory board recommendations implemented • Influence of recommendations on technical skills, soft skills, employability, career readiness
Employer survey	<ul style="list-style-type: none"> • Local industry employers 	<ul style="list-style-type: none"> • Desired qualifications for new hires • Satisfaction with TAACCCT program graduates
Tracking data request	<ul style="list-style-type: none"> • Nevada Consortium program leaders 	<ul style="list-style-type: none"> • Support services conducted • Tutor & TA hours offered • Advisory board meetings held • DETR employment data

Impact study

Key outcomes

- Ninety-eight program completers and alumni were either employed at the time they exited the college or soon after (within 6 months). Of these 98, 74 (76%) were retained as employees.
- Two hundred incumbent workers experienced a wage gain within three quarters of completing a TAACCCT-funded college program.
- A larger proportion of program completers were employed in their field of study after completing their programs (44%) compared to those employed in field of study at the beginning (17%). Of the 22 alumni, nine were employed in field of study at the time of the survey(s).
- Local industry employers intended to continue to hire from and send employees for training at the Nevada Consortium colleges.

Implementation study findings

Key aspects of Nevada Consortium project design

- The Nevada Consortium focused efforts on offering accelerated training formats for eleven programs across three community colleges in the mining and manufacturing industries.
- The Nevada Consortium developed online training formats and extended lab hours for four TAACCCT-funded college programs in order to provide full-time workers the opportunity to complete coursework in an asynchronous format. Students engaged in these programs at their own pace as hybrid learners by accessing class materials via an online student portal and engaging in hands-on skill development in open labs on campus.

Alignment with employer needs

- Program leaders continued to leverage existing relationships with local industry employers by inviting them to advisory board meetings held at least once per year. At these meetings, employers were invited to review upcoming curriculum for TAACCCT-funded programs and provide recommendations to better align curriculum with employers' needs for new hires and incumbent workers.
- Instructors implemented recommendations to purchase relevant equipment and focus students' skill development based on employer desires and industry trends. They felt that almost all recommendations had a positive impact on students' technical skills and most positively impacted students' soft skills, ability to gain employment, and ability to succeed in their careers.

Accelerated training outcomes

- Program completers engaging in hybrid learner programs found it easy to engage with the class curriculum online and communicate with their instructors.

- Program completers found their coursework to be useful in helping them pursue their academic and career skills. Overall, they felt that their college programs positively impacted their technical skills.
- Alumni found the most useful aspects of their college programs to be instructor expertise, lab time, and coursework. They felt that in addition to technical skills, the program positively impacted their theoretical knowledge as well.

College and TAACCCT-funded support services

- The Nevada Consortium used TAACCCT funding to conduct additional job fairs, recruiting events, networking events, and provide additional TA and tutoring hours.
- Program completers were satisfied with all college-provided and TAACCCT-funded support services. They were also satisfied with support they received from TAs and tutors.

Conclusions

- The Nevada Consortium implemented an adaptive program that could respond to changes in employers' needs and teach students the necessary skills for the manufacturing and mining industries. Community colleges looking to implement similar training programs should develop processes for gathering, implementing, and monitoring feedback from employers regarding the alignment between coursework and the technical and soft skills needed to be successful within target fields.
- The program was less effective in tracking students after they exited the colleges to determine employment and wage gain. By using DETR data, the program was able to approximate outcomes for program participants but could not determine whether participants gained employment in their field of study or whether wage gain was tied to increase in skills and/or industry-related credentials. In the cases where employment information was available, results suggest that some students obtained better employment opportunities either through advancing to full-time employment and/or employment within their chosen field. Community college programs targeting improvement in employment outcomes should ensure there is a consistent tracking method in place to understand changes in students' employment and wage gain specific to their field of study.
- Future research could more closely study if there are any longer-term effects of the accelerated training programs on students' employment as they pursue their careers.

Program background

In October 2013, the Nevada Consortium of Great Basin College (GBC), Truckee Meadows Community College (TMCC) and Western Nevada College (WNC) received a Department of Labor Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant to ensure that U.S. institutions of higher education are helping adults succeed in acquiring the skills, degrees, and credentials needed for high-wage, high-skill employment while also meeting the needs of employers for skilled workers. Implemented in partnership with the Department of Education, the goals of the TAACCCT program are to better prepare Trade Adjustment Assistance (TAA)-eligible workers and other adults for high-wage, high-skill employment or re-employment in growth industry sectors; improve learning, completion, and other outcomes for TAA-eligible workers and other adults; and demonstrate improved employment outcomes. The Nevada Consortium supports TAACCCT program goals by endeavoring to increase attainment of degrees, certification, certificates, diplomas, and other industry-recognized credentials that match the skills needed by employers in the growth industry sectors of Manufacturing and Mining.

Goals of the U.S. Department of Labor TAACCCT Program

1. Increase attainment of degrees, certifications, certificates, diplomas, and other industry-recognized credentials that match the skills needed by employers to better prepare TAA-eligible workers and other adults for high-wage, high-skill employment or re-employment in growth industry sectors.
2. Introduce or replicate innovative and effective methods for designing and delivering instruction that address specific industry needs and lead to improved learning, completion, and other outcomes for TAA-eligible workers and other adults.
3. Demonstrate improved employment outcomes.

Nevada Consortium project goals

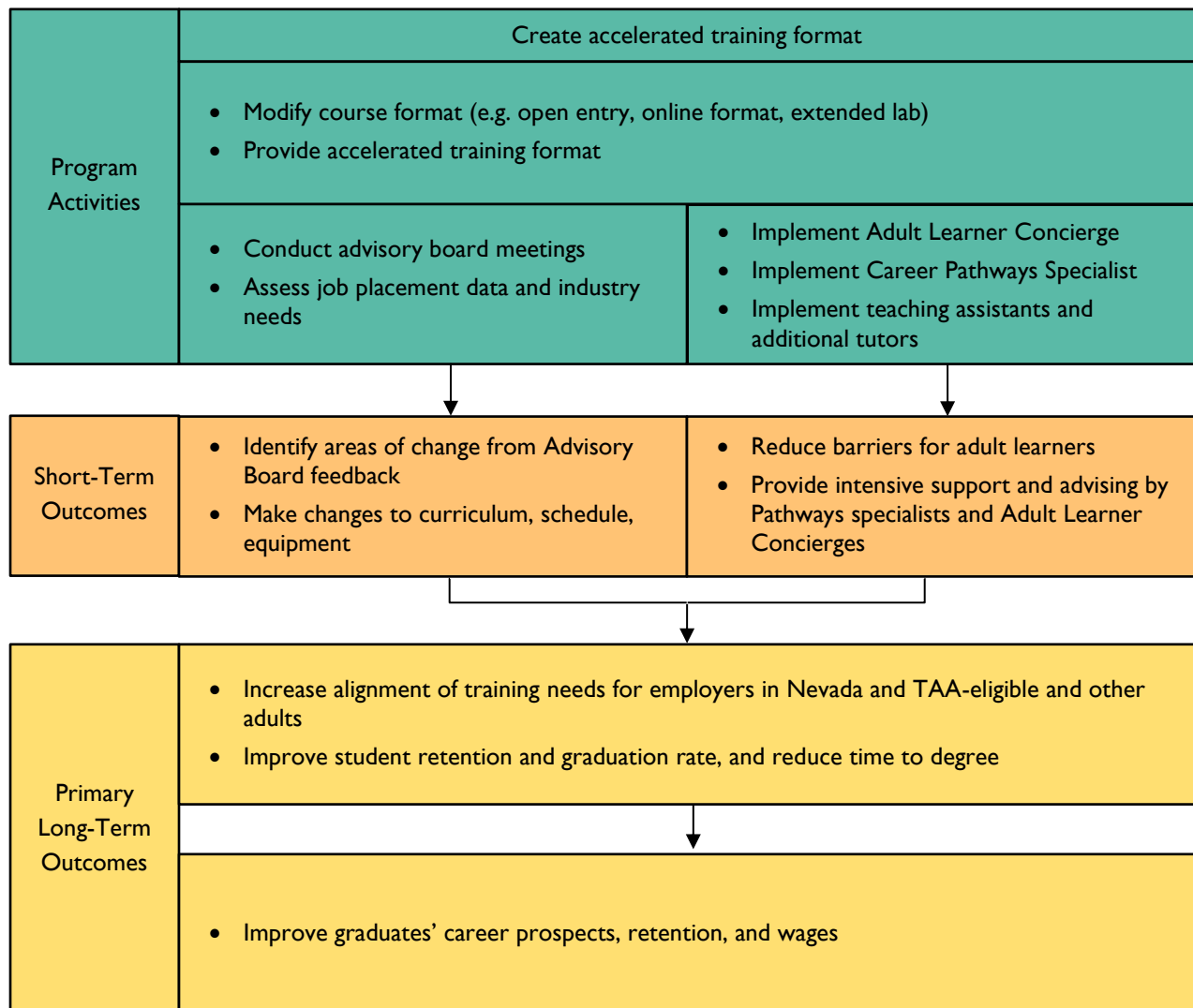
The Nevada Consortium developed the following goals to achieve Department of Labor TAACCCT outcomes:

1. Align training needs for both employers in Nevada and TAA-eligible and other adults.
2. Provide additional capacity and accelerated training formats for manufacturing and mining occupations.
3. Create infrastructure, processes, and content to support innovative technology-enabled learning environments.
4. Provide intensive support and advising.
5. Create institutionalized processes and procedures across the Consortium to provide stacked and latticed credentials aligned with industry needs and career pathways.

The program leaders sought to achieve the U.S. Department of Labor TAACCCT goals through three main activities: conducting advisory board meetings to align training programs with employers' needs (Nevada Consortium goal 1), developing accelerated training programs (Nevada Consortium

goals 2 and 3), and providing support services and advising for trainees (Nevada Consortium goals 4 and 5). The colleges held advisory board meetings, which were composed of industry employers, college faculty members, and occasionally students, to discuss industry needs and job placement data in order to align course curriculum and equipment with employers' needs. The support services and advising provided include the Adult Learner Concierge, the Career Pathways specialist, and teaching assistants and tutors. The support services aimed to improve student retention and graduation rates as well as reduce the time needed to obtain a certificate or degree. Through these activities, the Nevada Consortium ultimately aimed to improve graduates' career prospects, retention, and wages. The following figure presents this information in a simplified theory of change.

This report focuses on key program activities in the implementation study (Nevada Consortium goal achievement), and their influence on students' employment outcomes in the impact study (DoL goal achievement). This report presents findings from the evaluation of program activities conducted from October 2013 to August 2017.



Project components

The colleges, in partnership with employers, determined the highest priority areas of training necessary for a highly qualified workforce for which jobs are currently available. These areas were welding, industrial millwright, machine tooling/computer numerical control, manufacturing production/applied industrial technology, and CISCO certified networking. These programs are aligned with moving the manufacturing and mining companies forward and opening opportunities for new investment in Nevada. Over the four project years, the Nevada Consortium utilized TAACCCT funding to develop and conduct the following college programs and trainings for national certifications and credentials.

	GBC	TMCC	WNC
College Programs	<ul style="list-style-type: none"> • Commercial Driving License • Industrial Millwright • Instrumentation • Welding 	<ul style="list-style-type: none"> • Machining • Manufacturing Production Technician • Welding 	<ul style="list-style-type: none"> • Applied Industrial Technology • CISCO • Machine Tooling • Welding
Certificates	<ul style="list-style-type: none"> • National Center for Construction Education and Research (NCCER) • National Career Readiness Certificate (NCRC) • Occupational Safety and Health Administration (OSHA) 	<ul style="list-style-type: none"> • American Welding Society (AWS) • Manufacturing Skills Standards Council (MSSC) • National Career Readiness Certificate (NCRC) • National Institute of Metalworking Skills (NIMS) 	<ul style="list-style-type: none"> • American Welding Society (AWS) • Cisco Certified Network Associates (CCNA) • Manufacturing Skills Institute (MT1) • Manufacturing Specialist Credential (MS) • National Career Readiness Certificate (NCRC) • National Institute of Metalworking Skills (NIMS) • Occupational Safety and Health Administration (OSHA)

Report terms

Term(s)	Definition
Program completers	Students who took the survey when they were finishing the last course of a TAACCCT-funded college program
Alumni	Former students who completed a TAACCCT-funded college program and exited the college
Non-completers	Former students who exited the Nevada Consortium before completing a TAACCCT-funded college program

Evaluation methods

In order to assess the progress made towards achieving the TAACCCT program goals, the evaluator developed and administered several evaluation forms for all programs offered during the academic year (see Appendix A for samples). A systematic, iterative process of construct identification, creation, and instrument review and validation guided the development of the evaluation forms. In addition, the evaluator developed and administered surveys to program alumni, instructors, and employers; obtained program tracking data; and conducted interviews with employers. All forms and surveys were online (www.surveymoz.com) or on paper.

Evaluation activities	Participants	Concepts measured	Timeline
Tracking data request	Nevada Consortium program leaders	<ul style="list-style-type: none"> • Support services conducted • Tutor & TA hours offered • Advisory board meetings held • DETR employment data 	<ul style="list-style-type: none"> • Fall 2015 • Fall 2016 • Fall 2017
Student evaluation forms	Program completers	<ul style="list-style-type: none"> • Usefulness of support services • Perception of program impact • Likelihood to utilize information learned 	<ul style="list-style-type: none"> • Administered once at the end of each program
Alumni survey	Alumni and non-completers	<ul style="list-style-type: none"> • Perception of the program's impact • Perception of program aspect usefulness 	<ul style="list-style-type: none"> • Fall 2016 • Spring 2017 • Summer 2017
Instructor survey	Program instructors	<ul style="list-style-type: none"> • Implementation of advisory board recommendations • Impact of implemented recommendations and changes in equipment • Collaborations with TAACCCT-funded services • Effects of the program ending 	<ul style="list-style-type: none"> • Fall 2016 • Summer 2017
Employer survey	Employers affiliated with the colleges	<ul style="list-style-type: none"> • Employers' relationship with the TAACCCT program and graduates • Important qualifications for hiring • Satisfaction with graduates' and trainees' qualifications and performance • Likelihood to hire graduates and train incumbents in the future 	<ul style="list-style-type: none"> • Fall 2016 • Fall 2017

Analysis methods

The evaluator conducted quantitative analysis of all evaluation data using SPSS software to calculate means and response frequencies. The evaluator analyzed responses to open-ended questions to identify themes and include representative quotations in the report. The overall analysis in this report is split into two sections: implementation study and impact study. The implementation study describes the Nevada Consortium's various TAACCCT program activities, including providing college support services and holding advisory board meetings, and to what extent participants utilized them. The impact study reports perceived effects of the programs and advisory board meeting recommendations on students' ability to gain employment, employers' satisfaction with TAACCCT program completers, and program completers' employment records.

Limitations

Not all participants completed the online surveys or completed every question on the paper forms. This resulted in disparate sample sizes, and limited the evaluator's ability to conduct statistical testing to understand differences between students' and instructors' ratings over time or between programs. Additionally, the evaluator adjusted surveys and added additional questions over multiple iterations of data collection to obtain more details regarding program completers' and alumni's employment status before they joined a TAACCCT-funded college program. As a result, some self-reported student employment data and instructor ratings regarding advisory board recommendations presented in this report do not represent participants over all four project years. Also, the evaluator was unable to match samples between program completers and alumni or non-completers as they matriculated through the program due to confidentiality measures. Therefore, it is possible that program completers and alumni or non-completers are not mutually exclusive groups. The findings and trends presented in this report take these limitations into account when describing evaluation results and combine samples across time when possible to draw conclusions.

Evaluation participants

Student demographics

Between Fall 2014 and Spring 2017, 279 students completed a survey when they finished their program (74% response rate). Across colleges, the majority of program completers were White males between the ages of 18 and 34. The percentage of non-White program completers (26%) was slightly higher than non-White individuals in the state of Nevada (24%) in 2016 per U.S. Census data. (retrieved from U.S. Census Data for the state of Nevada.)

Demographics		GBC		TMCC		WNC	
		n	%	n	%	n	%
Gender	Female	3	4%	4	8%	18	12%
	Male	77	96%	47	92%	127	86%
	Did not respond					3	2%
	Total	80		51		148	
Ethnicity	African American	0	0%	0	0%	6	4%
	American Indian/Alaska Native	8	10%	0	0%	1	1%
	Asian	0	0%	0	0%	3	2%
	Hispanic/Latino	14	18%	3	6%	19	13%
	Native Hawaiian/Pacific Islander	0	0%	0	0%	0	0%
	White	53	66%	46	90%	107	72%
	Other	5	6%	2	4%	12	8%
	Total	80		51		148	
Age	18-24	62	78%	11	22%	46	31%
	25-34	17	21%	15	29%	41	28%
	35-44	0	0%	7	14%	24	16%
	45-54	1	1%	12	24%	29	20%
	55+	0	0%	6	12%	8	5%
	Total	80		51		148	
Education before entering program	High school diploma/GED	28	35%	14	28%	45	30%
	Certificate of achievement	17	21%	11	22%	13	9%
	Some college credits	11	14%	12	24%	60	41%
	Associate degree	23	29%	4	8%	15	10%
	Bachelor's degree	1	1%	8	16%	11	7%
	Other	0	0%	2	4%	4	3%
	Total	80		51		148	

Alumni demographics

Nineteen TMCC alumni (15%) and 17 WNC alumni (9%) responded to alumni surveys distributed between 2015 and 2017. Most TMCC and WNC alumni completed their programs. Only one GBC alumnus/a (2%) responded to the 2015-16 survey, but was excluded from this analysis to protect anonymity. Regardless of college, most respondents were White males.

Demographics		GBC		TMCC		WNC	
		n	%	n	%	n	%
Gender	Female	N/A		2	11%	3	18%
	Male		17	89%	14	82%	
	Total		19		17		
Ethnicity	African American			2	11%	0	0%
	American Indian/Alaska Native			0	0%	0	0%
	Asian			0	0%	0	0%
	Hispanic/Latino	N/A		4	21%	1	6%
	Native Hawaiian/Pacific Islander		0	0%	0	0%	
	White			12	63%	15	88%
	Other			1	5%	1	6%
Total			19		17		
Program completion status	Program completer	N/A		12	63%	10	59%
	Program non-completer		7	37%	7	41%	
	Total		19		17		
College exit	Fall 2014			1	5%	1	6%
	Spring 2015			1	5%	3	18%
	Summer 2015			2	11%	0	0%
	Fall 2015	N/A		8	42%	2	12%
	Spring 2016		1	5%	5	29%	
	Summer 2016			3	16%	1	6%
	Fall 2016			3	16%	5	29%
Total			19		17		

Instructor demographics

TAACCCT program instructors completed an instructor survey in Fall 2016 (n=15) and Fall 2017 (n=10). Interviews with one GBC Industrial Millwright Technology instructor and one GBC Instrumentation instructor in Fall 2016 preceded the surveys. Their years of teaching experience ranged from having taught less than a year to over 10 years. Most respondents facilitated the Advisory Board meetings. Respondents also indicated how they received advisory board meeting minutes by checking all options that applied to them. All respondents received meeting minutes through a combination of attending meetings and/or via email.

Demographics		GBC		TMCC		WNC	
		n	%	n	%	n	%
Years as instructor	Less than 1 year	0	0%	3	33%	0	0%
	1-2 years	1	33%	1	11%	2	15%
	2-3 years	0	0%	1	11%	5	38%
	4-9 years	1	33%	2	22%	3	23%
	10+ years	1	33%	2	22%	3	23%
	Total	3		9		13	
Attendance at Advisory Board meetings	Always	2	67%	9	100%	7	54%
	Sometimes	1	33%	0	0%	2	15%
	Rarely	0	0%	0	0%	1	8%
	Never	0	0%	0	0%	3	23%
	Total	3		9		13	
Receive recommendations	Via email	3	100%	2	22%	3	23%
	Via attendance	0	0%	9	100%	10	77%
	None	0	0%	0	0%	1	8%
	Total	3		9		13	
Advisory Board meeting role	Facilitator	3	100%	9	100%	5	38%
	Note-taker	0	0%	0	0%	1	8%
	Spectator	0	0%	0	0%	2	15%
	Subject Matter Expert	0	0%	0	0%	2	15%
	N/A	0	0%	0	0%	3	23%
	Total	3		9		13	

Employer demographics

A total of 14 local employers (6 GBC, 2 TMCC, and 6 WNC collaborators) from mining and manufacturing industries in Nevada responded to the employer survey in Fall 2016 and Fall 2017. Of the employers who identified their industry, three were in the mining industry, six were in the manufacturing industry, and one was in the information technology industry.

Industry	GBC	TMCC	WNC
Mining	3		
Manufacturing	1	2	3
Information technology			1
Total	6	2	6

Impact study

Employment outcomes

In order to determine the TAACCCT program's achievement in improving employment outcomes in the industries of mining and manufacturing (DoL Goal 3), the evaluator analyzed data from government resources and program surveys.

DETR employment findings

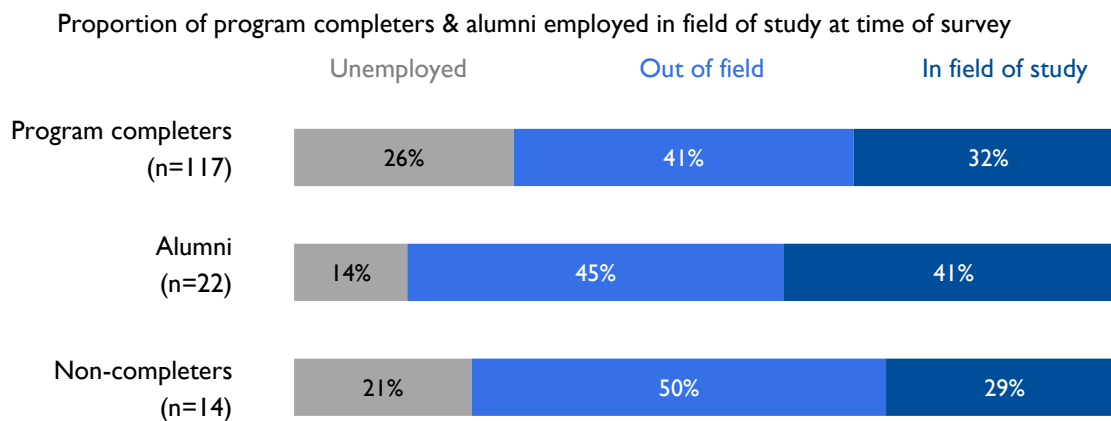
To understand employment outcomes, the evaluator analyzed employment data obtained from Nevada's Department of Employment, Training, and Rehabilitation (DETR) for students from the Nevada Consortium who exited the colleges between January 2014 and March 2016. DETR follows up with students one quarter and three quarters after they exit their respective programs to determine whether the program completers gained employment and whether they were retained in their jobs. DETR also contacts incumbent workers to determine if they received a wage increase as a result of receiving further training or certifications. Overall, 74% of GBC program completers, 17% of TMCC completers, and 9% of WNC completers found employment within one quarter of exiting the college. Of those who found employment, the majority (ranging from 78% to 100%) remained in their job three quarters after exiting the college. Approximately half (ranging from 43% to 64%) of incumbent workers received wage gains within a quarter of completing a TAACCCT program. Over the four project years, 200 incumbent workers experienced a wage gain, exceeding the Nevada Consortium target of increasing wages for 39 incumbent workers. However, due to the nature of DETR queries, the respondents did not disclose whether they were employed within their field of study or whether their wage gains were the result of completing a TAACCCT program. Yet, along with the survey findings presented next, the DETR data suggest that program completers and alumni gain employment soon after exiting their college.

Survey findings

To supplement DETR employment findings, the evaluator analyzed program completers' (n=279), alumni's (n=22), and non-completers' (n=14) self-reported changes in employment to determine rate of employment and time to gaining employment.

Across colleges, 77 (28%) program completers, 14 (64%) alumni, and seven (50%) non-completers reported being employed full-time after completing a TAACCCT-funded program. Of those who began their college programs unemployed, in internships, or in other employment opportunities, six (8%) GBC, four (8%) TMCC, and seven (5%) WNC program completers gained full-time or part-time employment after completing their programs. Of the eight alumni survey respondents who described their employment status before and after entering their college programs, four (50%) were unemployed or only employed part-time at the beginning of the program and obtained full-time employment upon completion. Overall, 15 (94%) TMCC and 11 (85%) WNC alumni and non-completers were employed either at the time they left the college or within six months of exiting college.

While some program completers, alumni, and non-completers reported gaining full-time or part-time employment after completing their programs, the proportion of those employed within their field of study varied. To evaluate the alignment between program completers' fields of employment and college programs, surveys distributed later in the program (Year 3) asked program completers (n=117) who were employed at the time of survey to indicate whether their employment was within their field of study at the time they completed the program. Similarly, alumni (n=22) and non-completers (n=14) indicated whether their current employment was within their field of study. Of all these participants, 38 (32%) program completers, 9 (41%) alumni, and 4 (29%) non-completers were employed in their field of study. The following chart summarizes overall in-field employment among program completers, alumni, and non-completers. There were no discernable trends over time or by college regarding in-field employment (See Appendix B for summaries of in-field employment split by college).



Not all program completers indicated beginning and current employment status due to survey changes. Of the program completers employed outside their field of study at the beginning of their college programs (n=32), 3 (9%) GBC and 1 (3%) WNC program completers were employed within their field of study after completing their programs. No alumni or non-completers changed employment from outside field of study to within.

The following implementation study section describes the mechanisms that contributed to implementation of instruction aligned with employers' needs, which led to the positive influence on employment outcomes.

Implementation study

Overview of implementation outputs

The Nevada Consortium developed nine targets for student participation, college program completion, and employment. The following table lists targets and overall achievement in each. Over the four project years, the Consortium met five of its nine targets and nearly met one. Of the five met, the Consortium exceeded targets in four – total participants served, participants who completed a college program, participants who completed credit hours, and incumbent workers who experienced wage gain after enrollment. The Consortium did not meet its targets in number of participants enrolled in further education, participants employed after program completion, and participants retained after program completion. As discussed previously, this may be due in part to lack of response to DETR queries and may not reflect the entire population of program completers.

Participation outputs and outcomes	Total	Target	Achievement
Total unique participants served	709	418	Met
Total number participants who have completed a TAACCT-funded program	375	361	Met
Total number of participants still retained in program of study or another TAACCCT-funded program	163	0	Met
Total number of participants completing credit hours	716	405	Met
Total number of participants earning credentials	364	376	Nearly met
Total number of participants enrolled in further education after grant-funded program of study completion	0	40	Not met
Total number of participants employed after grant-funded program of study completion	98	282	Not met
Total number of participants retained in employment after program of study completion	74	251	Not Met
Total number of those participants employed at enrollment who receive a wage increase post enrollment	200	39	Met

The following table presents student support activities that the Nevada Consortium conducted with the help of TAACCCT funding. Sections with “N/A” refer to data that were unavailable at the time of request. Overall, the Consortium reached 6,713 students via support service contacts and provided a variety of academic and career development events such as job fairs, recruitment events, and additional tutoring support. The TAACCCT program in Nevada resulted in 375 students completing a TAACCCT-funded college program, of whom 364 earned professional credentials.

College	Activity	Frequency of activities				
		2013-14	2014-15	2015-16	2016-17	Total
GBC	Support service contacts	934	1,692	706	1,597	4,929
	Job fairs	1	3	2	2	8
	Tutoring hours		417.18	608.49		1,026
	Recruitment events	1	43	3		47
	Referrals		12			12
	Other events	N/A	N/A	4 mock interview events, 1 job skills workshop, 3 interview workshops	5 unknown other services	12
TMCC	Support service contacts					
	Job fairs				5	5
	Tutoring hours					
	Recruitment events	N/A	N/A	N/A	18	18
	Referrals					
Other events				67 workshops and networking events	67	
WNC	Support service contacts	507	434	378	465	1,784
	Job fairs		3	4	2	9
	Tutoring hours				0	
	Recruitment events		11	7	2	20
	Referrals	12	74	139	100	325
	Other events	N/A	N/A	N/A	Job Club counselling events held every Thursday, sponsored by Nevada JobConnect	

Alignment of training to employer needs – Nevada Consortium goal 1 Advisory boards conducted by program

The colleges held advisory board meetings at least once per academic year, in which industry employers reviewed upcoming program curriculum with program instructors and recommended changes to course curriculum and equipment to better align students' training with their needs for new and incumbent workers. As a result of this collaboration, instructors were able to adjust curriculum to improve students' technical and soft skills, employability, and career readiness.

The evaluator reviewed meeting minutes and tracking data provided by the colleges to identify the number of meetings held and number of participants in 2013-14 through 2016-17 academic years. Because the evaluator did not receive meeting minutes from every meeting session or tracking data from all three schools, some of the data are incomplete.

Instructors (n=25) indicated that they implemented most recommendations within one to six months of receiving the recommendations from the advisory board. However, as lack of sufficient time to implement recommendations was the primary barrier to implementation, results suggest that instructors may have prioritized recommendations that could be accomplished within the grant period. The program successfully brought together employers and instructors to align training programs with industry needs (Nevada Consortium Goal 1). See Appendix C for the full list of recommendations.

Instructors indicated whether advisory board recommendations positively influenced students' technical and soft skills as well as their ability to gain employment and be successful in a career. Overall, instructors agreed that recommendations positively influenced technical skills but were less consistent in their agreement on soft skills. With the exception of the TMCC Production Technician program, instructors were fairly consistent regarding the positive influence of implemented advisory board recommendations on both students' ability to gain employment and be successful in a career. Results are discussed in detail in the following sections.

Technical skills

Instructors indicated that 16 (84%) of the implemented recommendations positively influenced students' technical skills. Only two WNC instructors indicated that the recommendations were not applicable for technical skills. However, one of these instructors explained that the recommendation would eventually positively influence technical skills, but it had not been fully implemented at the time of survey. See Appendix D for the full list of implemented recommendations and instructors' agreement regarding the positive influence on technical skills.

As developing technical skills was a key goal for the Nevada Consortium to better prepare students for high-wage, high-skills employment (DoL Goal 1), the program was successful in supporting instructors' implementation of advisory board recommendations that positively influenced students' technical skills.

Soft skills

Twenty (80%) instructors agreed that at least one implemented recommendation positively influenced students' soft skills. Examples of these recommendations included connecting students with employers, revising course curricula, and increasing shop time. These recommendations provided opportunities for students to communicate and work with one another, practice mock interviews, and present to employers. These soft skills will help students obtain and be successful in their current and future careers. It is likely that most recommendations provided in advisory board meetings were not primarily intended to influence students' soft skills as the purpose of advisory board meetings was to provide hands-on technical training. See Appendix E for the full list of implemented recommendations and instructors' agreement regarding the influence on students' soft skills.

Employability and career readiness

Instructors rated the extent to which the implemented advisory board recommendations had a positive influence on students' ability to gain employment and career readiness on 4-point scales from "slightly positive" (1) to "extremely positive" (4). The mean ratings were calculated to demonstrate the overall extent implemented recommendations positively influenced students' ability to gain employment and career readiness. For almost all programs, instructors consistently rated the recommendations' influence on students' ability to gain employment and career readiness positively and to a similar degree. GBC findings reflect instructors' ratings and interview responses only from Fall 2016 due to lack of response to subsequent surveys.

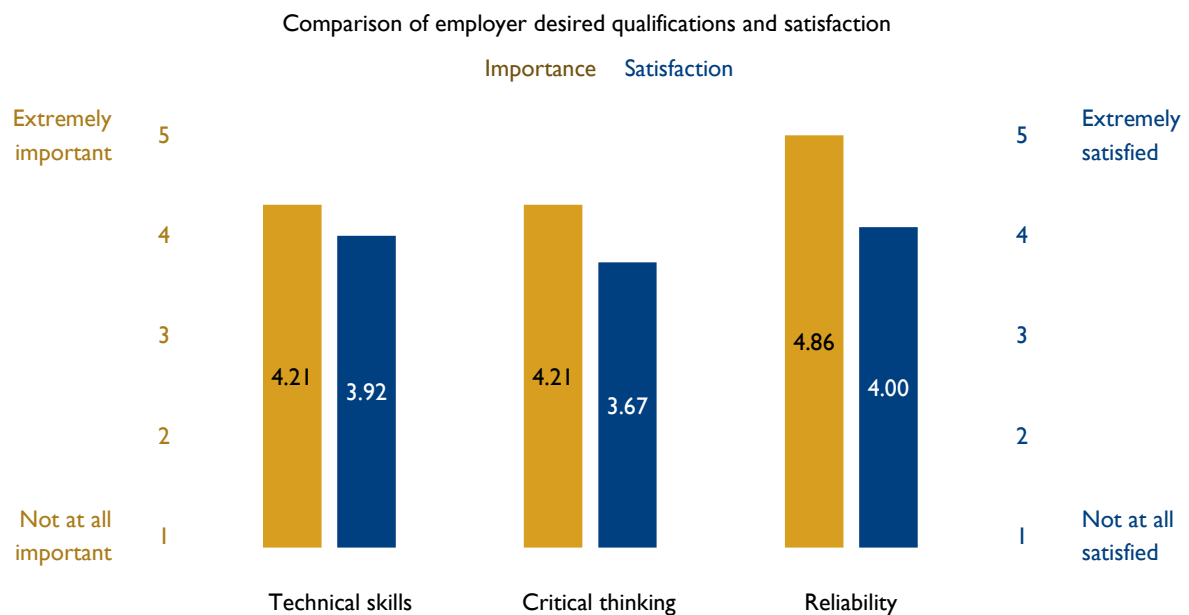
Results suggest that implementing the recommendations from the programs' advisory boards positively influenced students' ability to gain employment and be successful in a career. Overall, TMCC instructors rated the positive influence on employability and career readiness lower than other college programs, but they did not clarify why. TMCC Production Technician instructors had a notable difference in average ratings between employability (1.86) and career readiness (3.25), which may be due to one or more contributing factors. Since Production Technician recommendations were more focused on technical, entry level skills that students could use in everyday work, instructors may have perceived these as having more influence on career readiness than ability to gain employment. Additionally, the instructors may have viewed recommendations to influence ability to gain employment as more time-intensive or difficult to implement. See Appendix F and G for the list of implemented recommendations that instructors rated as a positive influence on students' ability to gain employment and career readiness.

College	Influence on employability/career readiness
GBC	<ul style="list-style-type: none"> Positive influence on students' ability to gain employment and career readiness, both mean ratings equaled 3.25. Welding instructors rated the influence lower (2.50) compared to the Industrial Millwright Technology instructors (4.00).
TMCC	<ul style="list-style-type: none"> Slight positive influence on students' ability to gain employment (1.93) compared to career readiness (2.51). Welding instructors rated recommendations as a higher positive influence (2.67) on students' ability to gain employment and career readiness than Production Technician (2.54) and Machining instructors (1.45). Notable difference in Production Technician instructors' means ratings on ability to gain employment and career readiness, at 1.83 and 3.25 respectively
WNC	<ul style="list-style-type: none"> Positive influence on students' ability to gain employment (3.18) and career readiness* (3.40). Welding instructors' average ratings on the positive influence on students' ability to gain employment were higher compared to the other WNC programs.

*Career readiness ratings only reflect CISCO and Welding programs due to incomplete data in other responses.

Employer satisfaction with alignment

Employers (n=14) were generally satisfied with the qualifications and skills of new graduates and were likely to continue to hire graduates from and send employees for training at the Consortium colleges. Employers were particularly satisfied with TAACCCT program graduates' technical skills, which they considered an important qualification when hiring. This indicates that the Nevada Consortium effectively aligned training with employers' needs, corroborating the instructors' ratings of program influence on students' technical skills. However, employers were somewhat less satisfied with new graduates' reliability and critical thinking skills, which they also consider important qualifications. Due to the structure of asking for feedback on curriculum, previous advisory board meetings did not focus on these skills. Future programs may seek to place additional emphasis on developing these skills to meet employer requirements.



Employers also noted that the TAACCCT program benefited both new graduates and existing employees who received training, with ten (83%) employers finding differences in knowledge and skills between new graduates and existing employees who received training. While some employers may have interpreted the question as asking for differences between new graduates and regular employees, all found the program benefitted its participants, with three (30%) commenting that existing employees were able to use their experience to apply the training in the context of job tasks, and seven (70%) commenting that the program made employees more skilled and effective workers. Alumni and non-completers working in their field of study similarly believed that they were able to satisfactorily complete work as well as or better than their peers.

Accelerated training – Nevada Consortium goals 2 & 3

Institutionalized processes

To support accelerated training, TMCC aligned existing courses (15) and credits (38) with degrees to allow students to apply prior coursework to their transcripts, thereby decreasing time required to attain a degree. GBC embedded a basic math test into TAACCCT-funded program coursework to allow students to fulfill required math credits without enrolling in additional courses. From Fall 2014 to Spring 2017, 83 students attempted the test and 67 (81%) passed.

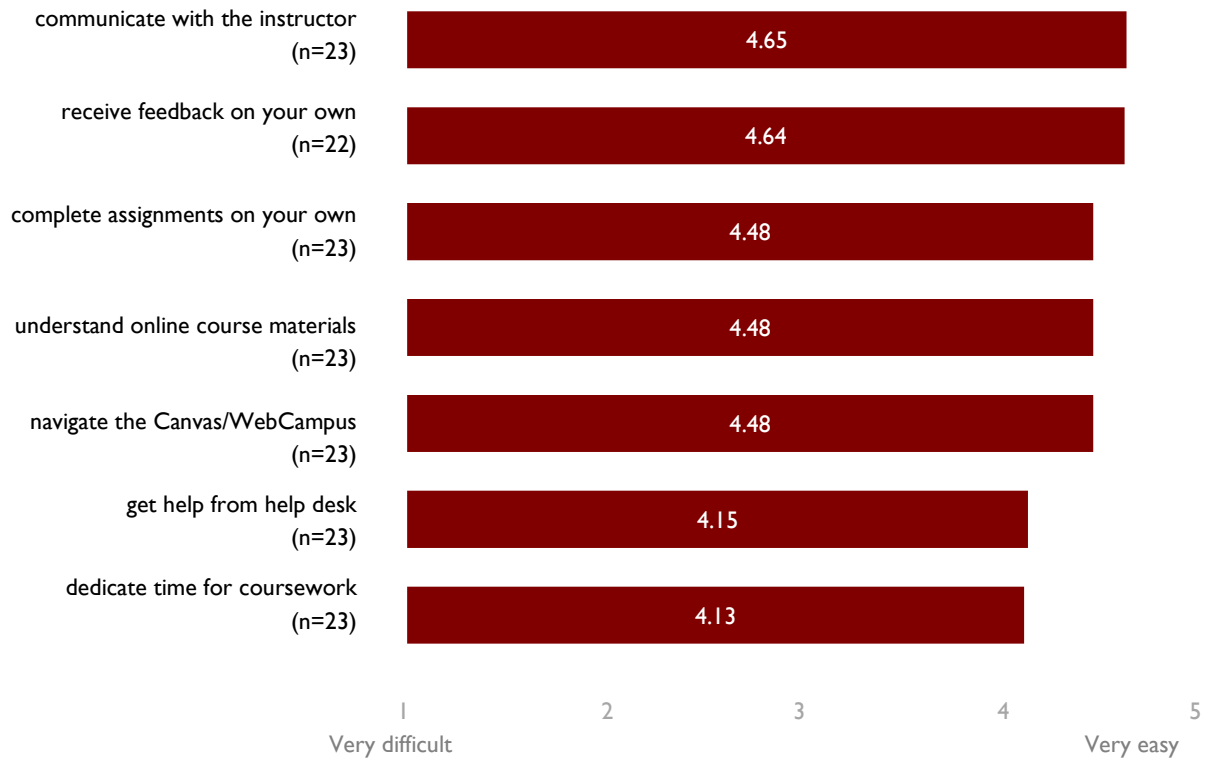
Satisfaction with class materials and equipment

As technology rapidly changes and influences all industries, the program sought to ensure that students had access to equipment and other technologies needed for them to be successful in their future careers. In 2015-16, program completers commented that they would like more up-to-date equipment (17), as well as improved shops (4) and materials (2). To better support students and align curricula with employers' needs, all but one instructor indicated using TAACCCT funding to upgrade equipment. The one instructor who disagreed may have excluded equipment upgrades in previous program years from consideration when answering the question. In 2016-17, program completers expressed satisfaction (3) with the equipment, and added that they would like more time (2) and guidance (1) in using the new equipment.

Satisfaction with online format

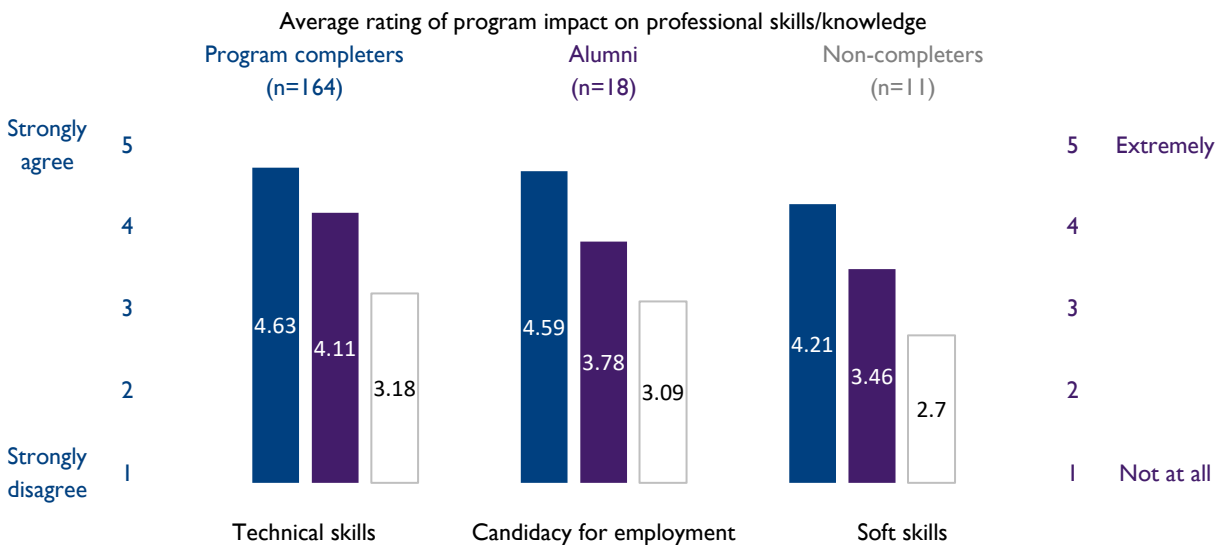
Across the Nevada Consortium, four college programs (GBC Instrumentation, TMCC Production Technician, WNC CISCO, WNC Applied Industrial Technology) contained online content intended for hybrid learners who could engage with asynchronous coursework (on their own time). The online content in these college programs was developed to better suit students who were already employed and could not attend classes during business hours. Across all four college programs, 23 (53%) program completers identified as hybrid learners and rated their experiences accessing and engaging with online class materials. They generally found the online instruction easy to use and were satisfied with the balance between online learning and on-campus lab time. Almost all would recommend the format to other students. Additionally, while four (40% of hybrid learners who rated the online format lowly) commented that they preferred in-person, hands-on learning, two (20%) noted the online format made it possible for them to schedule coursework around their jobs which would have otherwise been difficult. The following chart displays hybrid learners' ratings of aspects of online learning.

Hybrid learners' average ratings to statements regarding "how easy is it to..."



Course impact on academic and career skills

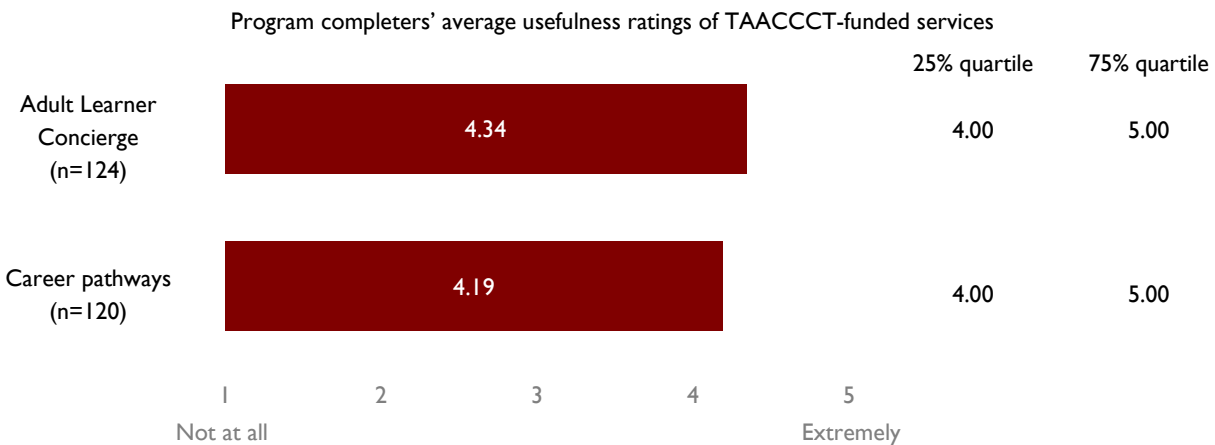
Program completers generally found the program beneficial to their academic and career skills, particularly their technical skills. Alumni and non-completers also rated the program’s impact on their technical skills and theoretical knowledge relatively high, though they rated the program’s impact on their other academic and career skills (e.g. candidacy for employment, soft skills, etc.) notably lower than program completers did. It is possible that these differences are due to (a) alumni having gained a more accurate perception of their qualifications on the job compared to when they completed the program and (b) non-completers not finding value in completing the program. Nevertheless, the smallest discrepancy between program completer ratings and alumni and non-completer ratings overall was in technical skills. Taking into account previously discussed instructor and employer survey findings, this suggests that the TAACCCT program is successfully developing participants’ technical skills to meet the demands of employers.



Program completers also rated the usefulness of the courses they took on a five-point scale from “not at all useful” (1) to “extremely useful” (5). Program completers’ course ratings (4.11-4.97) confirmed that the coursework is beneficial to achieving their academic and career goals. Additionally, program completers believed they were likely to utilize the program information in the future. Alumni and non-completers also agreed that the courses were beneficial, rating instructor help, lab time, and program coursework as the top three most useful aspects of the program.

Usefulness of support services – Nevada Consortium goals 4 & 5

In order to reduce barriers for adult learners, improve student retention and graduation rates, and decrease time to complete a degree, the Nevada Consortium colleges provided a number of support services for their students, such as Academic Advisement and Counseling and Career Services. Program completers rated services they used on a scale of “not at all useful” (1) to “extremely useful” (5). Across colleges, the majority of program completers (ranging from 64% to 85%) found all support services useful, particularly the TAACCCT-funded services (Adult Learner Concierge and Career Pathways). Program completers also generally found TAs, who were hired and trained with TAACCCT funding, to be useful in helping them successfully complete their courses.



Beginning in Fall 2016, the evaluator asked program completers to indicate whether they planned to test for a national certificate in their field of study or if they had already done so. Across colleges, most program completers (86%) had tested or planned to test for a national certificate in their field of study. Students who had not tested or did not plan to test offered a variety of explanations why, including not being aware of certification tests in their field, lack of on-campus testing, and not planning to gain employment within the certification award period.

Tested/planning to test for national certificate	GBC		TMCC		WNC	
	n	%	n	%	n	%
No	11	17%	3	21%	3	7%
Yes	53	83%	11	79%	43	93%
Total	64		14		46	

Summary and conclusions

The Nevada Consortium implemented an adaptive program that could respond to changes in employers' needs and teach students the necessary skills for the manufacturing and mining industries. The Nevada Consortium met TAACCCT program goals as evidenced by the increase in program completers and alumni who reported gaining employment, moving into full-time employment, and gaining employment in their field of study after completing a TAACCCT-funded college program. By continuing to facilitate advisory board meetings, the colleges consistently received feedback on employers' needs and implemented their recommendations to align training to match those needs. Students and alumni felt that the program was effective in helping them develop crucial technical skills required to gain employment in high-skill careers. They also found support services they utilized, especially TAACCCT-funded services, to be useful. The Nevada Consortium used TAACCCT funds to provide students with additional support in the form of job fairs, recruiting events, and additional tutoring hours.

In addition to technical skills, employers desired new employees to have strong communication skills, critical thinking skills, and a high level of professionalism and reliability. However, due to the accelerated training programs being brief (one to two semesters), they typically focused on developing technical skills. Community colleges looking to implement similar training programs should develop processes for gathering, implementing, and monitoring feedback from employers to align coursework and the technical and soft skills necessary for successful employment and job performance within target fields. Additionally, they should develop tracking methods to ensure that they can follow-up with students after program completion to determine the impact of training on program completers' ability to gain employment within their field of study, succeed in their career, and experience wage gain.

Appendix A – Sample evaluation instruments

Student program evaluation form

About you:

Please write your student ID: _____

1) Are you completing your program this semester?

1. No
2. Yes

2) With which gender do you identify?

1. Male
2. Female

3) With which ethnicity do you most closely identify?

1. African American
2. American Indian or Alaskan Native
3. Asian
4. Hispanic or Latino
5. Native Hawaiian or other Pacific Islander
6. White (non-Hispanic)
7. Do not wish to specify
8. Other, please specify: _____

4) What is your current age?

1. 18-24
2. 25-34
3. 35-44
4. 45-54
5. 55 and over

5) Which is your highest level of educational attainment?

1. High school diploma/GED
2. Certificate of achievement (e.g. Diesel Mechanic Certificate, Welding Certificate)
3. Some college credits
4. Associate's degree
5. Bachelor's degree
6. Other, please specify: _____

6) Please circle your employment status before you joined the program (please circle one option only).

	In my field of study	Not in my field of study
Unemployed	0	
Internship/MTC scholarship	0	1
Part-time	0	1
Full-time	0	1
Other	0	1

7) Please circle your current employment status (please circle one option only).

	In my field of study	Not in my field of study
Unemployed	0	
Internship/MTC scholarship	0	1
Part-time	0	1
Full-time	0	1
Other	0	1

8) What is your current hourly wage (e.g. \$8.90, \$12.36)?

9) Have you tested or are you planning to test for a Welding national certification?

1. No
2. Yes.

10) If you are not planning to test for a Welding national certification, please explain why.

Support Services

11) Please rate the usefulness of the following GBC support services on your academic and/or career goals on a scale from not useful at all to extremely useful.

	N/A; Did not use	Not useful at all	Slightly useful	Somewhat useful	Very useful	Extremely useful
Academic Advisement	0	1	2	3	4	5
Academic Support/Success Center	0	1	2	3	4	5
Counseling and Career Services	0	1	2	3	4	5
Financial Aid	0	1	2	3	4	5
Online Self-service Tools	0	1	2	3	4	5
Veterans' Services	0	1	2	3	4	5

12) Please comment on the usefulness of any of the support services at GBC that you rated as somewhat useful or below.

13) Please rate the usefulness of the following GBC support services that are funded by the TAACCCT program on your academic and/or career goals on a scale from not useful at all to extremely useful.

	N/A; Did not use	Not useful at all	Slightly useful	Somewhat useful	Very useful	Extremely useful
Adult Learner Concierge	0	1	2	3	4	5
Career Pathways (e.g. college/career maps, Education Plan or Employment Plan)	0	1	2	3	4	5

14) Please comment on the usefulness of either of the TAACCCT-funded support services at GBC that you rated as somewhat useful or below.

15) Please rate how much the Adult Learner Concierge and Career Pathways helped you in the following ways from strongly disagree to strongly agree.

The support services helped me...

	N/A; Did not do this	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
catch up with the credits needed to graduate.	0	1	2	3	4	5
re-enroll in school after a delay.	0	1	2	3	4	5
improve my ability to find a job.	0	1	2	3	4	5

16) Please comment on any aspects of the services that you did not agree were helpful in the ways listed in the previous question.

17) Please comment on any other aspects of the Adult Learner Concierge and Career Pathways services that were helpful.

Welding Technology Program Courses

18) Please indicate which courses you've completed within the GBC Welding program.

	Not completed	Completed
WELD 105 - Drawing and Weld Symbol Interpretation	0	1
WELD 110 - Basic Arc Welding Principles and Practices	0	1
WELD 150 - Metallurgy Fundamentals for Welding	0	1
WELD 160 - Welding Design/Layout and Pipefitting	0	1
WELD 210 - Advanced Welding Principles and Practices	0	1
WELD 220 - Gas Metal (GMAW) & Flux Cored Arc Welding (FCAW)	0	1
WELD 240 - Gas Tungsten Arc Welding (GTAW)	0	1
WELD 260 - Pipe Welding	0	1

19) Please rate the usefulness of each course you took as part of the GBC Welding program you completed this semester, from not at all useful to extremely useful.

	Not at all useful	Slightly useful	Somewhat useful	Very useful	Extremely useful
WELD 105 - Drawing and Weld Symbol Interpretation	1	2	3	4	5
WELD 110 - Basic Arc Welding Principles and Practices	1	2	3	4	5
WELD 150 - Metallurgy Fundamentals for Welding	1	2	3	4	5
WELD 160 - Welding Design/Layout and Pipefitting	1	2	3	4	5
WELD 210 - Advanced Welding Principles and Practices	1	2	3	4	5
WELD 220 - Gas Metal (GMAW) and Flux Cored Arc Welding (FCAW)	1	2	3	4	5
WELD 240 - Gas Tungsten Arc Welding (GTAW)	1	2	3	4	5
WELD 260 - Pipe Welding	1	2	3	4	5

20) Please comment on any of the courses you rated as less than very useful. What could be improved about this course?

21) Overall, how useful were the TAs in helping you successfully complete the courses you took?

0. N/A
1. Not at all useful
2. Slightly useful
3. Somewhat useful
4. Very useful
5. Extremely useful

22) Please comment on the adequacy of classroom equipment and materials being up-to-date.

Online Instruction Logistics

23) Are you taking any of the required courses as an online or hybrid learner? Online learners are students who take courses completely online. Hybrid learners are students who attend classes both in-person and online.

1. No (if you answered "No", skip to question #31 on the next page)
2. Yes

24) How easy is it to...

	N/A; Does not apply	Very difficult	Difficult	Neutral	Easy	Very easy
navigate the Canvas/WebCampus course website?	0	1	2	3	4	5
get help from the technical help desk with technical issues?	0	1	2	3	4	5
communicate with the instructor?	0	1	2	3	4	5
understand online course materials?	0	1	2	3	4	5
dedicate time for coursework?	0	1	2	3	4	5
complete assignments on your own?	0	1	2	3	4	5
receive feedback on assignments?	0	1	2	3	4	5

25) Please comment on any of the above items you rated as *neutral* or below.

26) Have you ever taken an online course prior to this one?

1. No
2. Yes

27) How satisfied are you with the current balance between online learning and on-campus lab time?

1. Not at all satisfied
2. Slightly satisfied
3. Somewhat satisfied
4. Very satisfied
5. Extremely satisfied

28) Please comment on why you rated yourself as *somewhat satisfied* or below.

29) Would you recommend the online format to someone interested in completing this program?

1. No
2. Yes

30) Please explain why you would not recommend the online format of the program.

Program Impact on Your Academic and Career Goals

31) Please rate how much this program impacted your academic and career goals on a scale from *strongly disagree* to *strongly agree*. This program helped me...

	N/A; Did not do this	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
develop technical skills needed in the workplace.	0	1	2	3	4	5
improve my computer and internet skills needed in the workplace.	0	1	2	3	4	5
develop interpersonal skills needed in the workplace.	0	1	2	3	4	5
develop my organizational and time management skills needed in the workplace.	0	1	2	3	4	5
believe that I am a better candidate for new employment.	0	1	2	3	4	5
envision future employment that is attainable.	0	1	2	3	4	5
feel more confident in the way I discuss important topics in my desired area of employment.	0	1	2	3	4	5
feel comfortable engaging in innovative, technology-enabled learning environments.	0	1	2	3	4	5
earn an industry or academic certification.	0	1	2	3	4	5
align my academic goals with my career goals.	0	1	2	3	4	5

32) Please comment on the aspects of the program that you didn't agree were very helpful to your academic and career goals.

33) Please explain how any of these aspects could be improved to better help you achieve your academic and/or career goals.

34) How likely are you to utilize the theoretical knowledge you learned in this program as you progress through your career?

1. Not likely
2. Slightly likely
3. Somewhat likely
4. Very likely

5. Extremely likely
35) How likely are you to utilize the technical skills you learned in this program as you progress through your career?

1. Not likely
2. Slightly likely
3. Somewhat likely
4. Very likely
5. Extremely likely

36) Please explain your rating. If you said you are *very* or *extremely likely* to use the information you learned, how will you use it? If you said you are *somewhat* or less likely to use the information, why not?

37) How likely are you to recommend this course of study to other students?

1. Not likely
2. Slightly likely
3. Somewhat likely
4. Very likely
5. Extremely likely

38) Please explain your rating in the comments section below.

39) May we contact you in the future to follow up with your employment and how the program has affected your career?

1. No
2. Yes, my personal e-mail address is: _____

Thank you for taking the time to complete this course evaluation survey. Your feedback is important!

Instructor survey

Implementation of advisory board recommendations

Please answer the following questions by indicating which ideas and recommendations discussed in the advisory board meeting were implemented or adapted. The remaining portions of the survey will ask questions based on your responses to these questions. Keep this page to the side to refer to as you complete the rest of the survey.

1) Which of these ideas and recommendations brought up in the advisory board meetings have you implemented or adapted? (select all that apply)

- Incorporate embedded math into classes
- Add fabrication to coursework
- Use the Career Readiness test before entering the program
- Other/None of these.

2) If you selected “Other/None of these”, please list up to six ideas and recommendations brought up in the advisory board meetings that you have implemented or adapted. [If you did not select “Other/None of these,” skip to question 3].

Other ideas and recommendations

3) Select and rank up to three of the listed implementations that had the biggest positive impact on students’ success and employability, where 1 was the implementation with the biggest impact. If none of the implementations had positive impacts, please select N/A.

Rank	Implementation [fill in from lists in questions 1 and 2]	N/A
✓ Recommendation 1		()
✓ Recommendation 2		
✓ Recommendation 3		

4) Select and rank up to three of the listed implementations that had the biggest negative impact on students’ success and employability, where 1 was the implementation with the biggest impact. If none of the implementations had negative impacts, please select N/A.

Rank	Implementation [fill in from lists in questions 1 and 2]	N/A
X Recommendation 1		()
X Recommendation 2		
X Recommendation 3		

5) What has prevented implementation of ideas or recommendations? (select all that apply)

- Lack of institutional support

- Limited funding
- Not enough time for implementation
- Other, please explain: _____

Impact of all advisory board recommendations

Based on all the implemented or adapted ideas/recommendations you selected in **question 1** on the previous page, please answer the following questions.

6) Did any of these implementations impact students' soft skills? Soft skills include punctuality, communication, works well with peers, etc.

- () Yes
- () No

7) If Yes, how did these implementations impact students' soft skills? If No, why not? How could these implementations be adjusted to incorporate soft skills training?

Implementation of advisory board recommendations that had a positive impact

Use the ideas/recommendations that you ranked as the top positive impacts to students on **page 2 (question 3)** to answer the questions on this page. If you answered "N/A" to question 3, skip to question 12 on the next page.

8) When did you incorporate the ideas/recommendations from the advisory board meetings?

Implementation	Within a month	Within six months	Within a year	More than a year
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

9) How did these ideas/recommendations positively impact students?

- ✓ Recommendation 1 _____

- ✓ Recommendation 2 _____

- ✓ Recommendation 3 _____

10) To what extent did these changes positively impact students' ability to gain employment? Rate each recommendation's impact on students' ability to gain employment from slightly positive to extremely positive.

Implementation	Slightly positive	Somewhat positive	Very positive	Extremely positive
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

11) To what extent did these changes positively impact students' ability to be more successful in their careers?

Rate each recommendation's impact on students' ability to be more successful in their careers from slightly positive to extremely positive.

Implementation	Slightly positive	Somewhat positive	Very positive	Extremely positive
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

Implementation of advisory board recommendations that had a negative impact

Use the ideas/recommendations that you ranked as the top negative impacts to students on **page 2 (question 4)** to answer the questions on this page. If you answered “N/A” to question 4, skip to question 16 on the next page.

12) When did you incorporate the ideas/recommendations from the advisory board meetings?

Implementation	Within a month	Within six months	Within a year	More than a year
X Recommendation 1	()	()	()	()
X Recommendation 2	()	()	()	()
X Recommendation 3	()	()	()	()

13) How did these ideas/recommendations negatively impact students?

X Recommendation 1

X Recommendation 2

X Recommendation 3

14) To what extent did these changes negatively impact students' ability to gain employment? Rate from slightly negative to extremely negative each recommendation's impact on students' ability to gain employment.

Implementation	Slightly negative	Somewhat negative	Very negative	Extremely negative
X Recommendation 1	()	()	()	()
X Recommendation 2	()	()	()	()
X Recommendation 3	()	()	()	()

15) To what extent did these changes negatively impact students' ability to be more successful in their careers?

Rate from slightly negative to extremely negative each recommendation's impact on students' ability to be more successful in their careers.

Implementation	Slightly negative	Somewhat negative	Very negative	Extremely negative
X Recommendation 1	()	()	()	()
X Recommendation 2	()	()	()	()
X Recommendation 3	()	()	()	()

Classroom equipment

16) Have any changes been made to classroom equipment as a result of TAACCCT funding?

() Yes, please explain: _____

() No, please explain: _____

() Planning/in progress, please explain: _____

17) Please rate your agreement with the following statements.

The current classroom equipment is...

Current state	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
up to industry standard	()	()	()	()	()
sufficiently available	()	()	()	()	()
in working condition	()	()	()	()	()

Collaboration with TAACCCT-funded services

18) Do you work with any TAACCCT-funded services (such as the Career Pathways Specialist or Adult Learner Concierge) to help students?

- () Yes
() No [If "No," skip to question 23 on the next page.]

19) When you work with any TAACCCT-funded services, who do you work with and what do they do?

20) Are these collaborations intended to address advisory board meeting recommendations?

- () Yes
() Sometimes
() No

21) Please rate how helpful collaborations are with TAACCCT-funded services.

Not at all helpful	Rarely helpful	Sometimes helpful	Often helpful	Always helpful
()	()	()	()	()

22) Please explain your response to question 21.

Current and future advisory board plans

23) Are you currently trying to implement recommendations from Advisory Board meetings?

- () Yes, please explain: _____
() No [If "No," skip to question 26.]

24) How will the TAACCT Round 3 program ending affect your ability to implement changes?

- () Reduce ability
- () No effect
- () Increase ability

25) Please explain your answer to the previous question (question 24). Why will you have reduced/no change/increased ability to implement changes?

About you

26) How long have you been teaching this program at this school?

- () Less than a year
- () One to two years
- () Two to three years
- () More than three years (please write in): ____ years

27) How do you receive recommendations from advisory board meetings? (select all that apply)

- Attending advisory board meetings
- Meeting minutes via email
- Other, please explain: _____

28) Please rate how often you attend the advisory board meetings.

Never attend	Rarely attend	Sometimes attend	Often attend	Always attend
()	()	()	()	()

29) If you attend advisory board meetings, what is your role at these meetings? (select all that apply)

- Facilitator/Moderator
- Notetaker
- Spectator
- Not applicable, please explain: _____
- Other, please explain: _____

Alumni survey

Program Impact

1. Please rate how much the program impacted your knowledge, skills, and qualities on a scale from *not at all* to *extremely*. This program helped me...

	Not at all	Not very	Somewhat	Very	Extremely
Develop technical skills in the field	1	2	3	4	5
Gain theoretical knowledge in the field	1	2	3	4	5
Gain an understanding of organizational context (industry regulations, competition, etc.)	1	2	3	4	5
Develop organizational and time management skills	1	2	3	4	5
Develop interpersonal skills	1	2	3	4	5
Develop computer/internet skills	1	2	3	4	5
Develop critical thinking skills (e.g., evaluating information, making decisions)	1	2	3	4	5
Become more reliable (can be depended on to complete work assignments)	1	2	3	4	5
Feel more confident in the way I discuss important topics in the field	1	2	3	4	5
Become a better candidate for employment/promotion	1	2	3	4	5

Program Aspects

2. Please choose the three most useful aspects of the program and rank them.

- Coursework
- Instructors' help
- Lab time
- On-campus tutoring
- Teaching Assistant (TA)'s help
- Work-based internship
- Adult Learner Concierge
- Career Pathways

3. Please explain why your top choice was most useful.

4. Please tell us how the program could improve to better assist future students in pursuing their careers.

About you

5. Please tell us about your current employment status.

- ① Unemployed
- ② Part-time
- ③ Full-time
- ④ Other

6. If you are employed, are you currently working in your field of study?

- ① No
- ② Yes

7. Compared to your peers at work, how would you rate your ability to complete work assignments satisfactorily?

- ① Poor
- ② Below average
- ③ Average
- ④ Above average
- ⑤ Excellent

8. How long after completing the program did you attain employment?

- ① I was employed at my current position before graduating
- ② Immediately after graduating
- ③ Within 3 months
- ④ Between 3 and 6 months
- ⑤ Between 6 months and 1 year
- ⑥ More than a year/did not find a job yet

9. With which gender do you identify?

- ① Female
- ② Male

10. With which ethnicity do you most closely identify?

- ① African American
- ② American Indian or Alaskan Native
- ③ Asian
- ④ Hispanic or Latino
- ⑤ Native Hawaiian or other Pacific Islander
- ⑥ White (non-Hispanic)
- ⑦ Do not wish to specify
- ⑧ Other, please specify _____

Thank You!

Employer survey

Training Needs

1. How important are each of the following needs for your company? Please circle your response.

	Not at all	Not very	Somewhat	Very	Extremely
Recruiting new employees with high skills and qualifications in your company's field	0	1	2	3	4
Providing current employees with opportunities for further training	0	1	2	3	4

Relationship with Training Program and Graduates

2. How familiar are you with GBC/WNC/TMCC's goals of meeting your company's needs for highly trained employees? Please circle your response.

Ⓐ Not at all Ⓐ Not very Ⓑ Somewhat Ⓒ Very Ⓓ Extremely

3. Below are training programs funded by the Department of Labor to meet employment and training needs in Nevada. How many graduates/trainees from these programs do you currently supervise directly or work closely with? Please write the number of graduates/trainees next to the respective program(s).

Great Basin College (GBC)	_____ Instrumentation	_____ Industrial Millwright Technology
	_____ Welding	_____ Commercial Driving License
Western Nevada College (WNC)	_____ Machine Tool	_____ Applied Industrial Technology
	_____ Welding	_____ CISCO Technology
Truckee Meadows Community College (TMCC)	_____ Machining	_____ Production Technician
	_____ Welding	

Required Qualifications for Hiring

4. How important are each of the following qualifications for your employees to have? Please circle your response.

	Not at all	Not very	Somewhat	Very	Extremely
Previous work experience	0	1	2	3	4
Specialized certification	0	1	2	3	4
Degree in a specific major					
• Certificate of achievement	0	1	2	3	4
• Associate's degree	0	1	2	3	4
• Bachelor's degree	0	1	2	3	4
• Graduate degree	0	1	2	3	4
Certification in a specific field (e.g. AWS, CCNA, CPTAE, LM, NCCER, NCRC, NIMS, OSHA)	0	1	2	3	4
Technical skills in your company's field	0	1	2	3	4
Theoretical knowledge in your company's field	0	1	2	3	4
Understanding of organizational context (industry regulations, competition, etc.)	0	1	2	3	4
Organizational and time management skills	0	1	2	3	4
Interpersonal skills	0	1	2	3	4
Computer/internet skills	0	1	2	3	4
Critical thinking skills (e.g., evaluating information, making decisions)	0	1	2	3	4
Commitment and reliability (can be depended on to complete work assignments)	0	1	2	3	4

Satisfaction with Graduates' and Trainees' Qualifications and Performance

5. How satisfied are you with the knowledge, skills, and qualities of graduates/trainees from the GBC/WNC/TMCC programs? Please think of both new employees who graduated from the programs and existing employees who received or are currently receiving training from the programs.

	Not at all	Not very	Somewhat	Very	Extremely
Technical skills in your company's field	0	1	2	3	4
Theoretical knowledge in your company's field	0	1	2	3	4
Understanding of organizational context (industry regulations, competition, etc.)	0	1	2	3	4
Organizational and time management skills	0	1	2	3	4
Interpersonal skills	0	1	2	3	4
Computer/internet skills	0	1	2	3	4
Critical thinking skills (e.g., evaluating information, making decisions)	0	1	2	3	4
Commitment and reliability (can be depended on to complete work assignments)	0	1	2	3	4

6. For any knowledge, skills, or qualities you rated below somewhat satisfied, please explain:

7. Have you noticed any difference between new graduates and existing employees who have received training from the colleges in their knowledge, skills, and qualities listed above? Please circle your response.

No

Yes, please explain:

8. Based on your experience with graduates and trainees from the programs at GBC/WNC/TMCC, how likely are you to hire other graduates from the same school and program when a position opens up?

Not at all Not very Somewhat Very Extremely

9. How likely are you to send other employees to the same school and program for further training? Please circle your response.

Not at all Not very Somewhat Very Extremely

10. What other skills and knowledge are needed for GBC/WNC/TMCC graduates/trainees to do a satisfactory job in your company?

Satisfaction with College Partnership

11. How satisfied are you with each of the following aspects of your company's partnership with GBC/WNC/TMCC? Please circle your response.

	Not at all	Not very	Somewhat	Very	Extremely
Process of recruiting graduates from the college programs	0	1	2	3	4
Process of sending employees to college programs for further training	0	1	2	3	4
Advisory board meetings	0	1	2	3	4
Frequency of communication with college	0	1	2	3	4
Clarity of communication with college	0	1	2	3	4
Level of involvement in developing or revising curriculum	0	1	2	3	4
College's response to feedback/opinions	0	1	2	3	4

12. For any partnership aspects you rated below somewhat satisfied, please explain:

Additional Contacts

13. We would like to reach out to someone in your company who can answer questions about company-wide number of graduates/trainees from the college programs (e.g. human resources manager). Please provide the following information. We will not use this information for any other purposes.

Company name: _____

Recommended employee's name: _____

Contact information (telephone or email): _____

14. We would like to reach out to other people in your company who directly supervise graduates/trainees from the college programs. Please provide contact information of the supervisor(s). We will not use this information for any other purposes.

Recommended supervisor's name(s): _____

Contact information (telephone or email): _____

15. May we contact you in the future to follow up with questions about new graduates/trainees? If yes, please provide the best email address to reach you.

No

Yes, email address: _____

Instructor survey

Implementation of advisory board recommendations

Please answer the following questions by indicating which ideas and recommendations discussed in the advisory board meeting were implemented or adapted **in the 2016-17 academic year**. The remaining portions of the survey will ask questions based on your responses to these questions. Keep this page to the side to refer to as you complete the rest of the survey.

1) Please use the space below to write all the advisory board recommendations you can remember, regardless of whether they were implemented or not.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____
- g. _____
- h. _____
- i. _____
- j. _____

2) Select up to three of the listed implementations that had the biggest positive impact on students' success and employability. If none of the implementations had positive impacts, please select N/A.

Rank	Implementation [fill in from list in question 1]	N/A
✓ Recommendation 1		()
✓ Recommendation 2		
✓ Recommendation 3		

3) Select up to three of the listed implementations that had the biggest negative impact on students' success and employability. If none of the implementations had negative impacts, please select N/A.

Rank	Implementation [fill in from list in questions 1]	N/A
X Recommendation 1		()
X Recommendation 2		
X Recommendation 3		

4) Please rate the extent to which the following issues have created barriers to implementing ideas or recommendations listed in question 1?

- Lack of institutional support
- Limited funding
- Not enough time for implementation
- Other, please explain: _____
- N/A; there were no barriers to implementation

Implementation of advisory board recommendations that had a positive impact

Use the ideas/recommendations that you ranked as the top positive impacts to students on **page 2 (question 2)** to answer the questions on this page. If you answered “N/A” to question 2, skip to question 16 on page 6.

5) When did you incorporate the ideas/recommendations from the advisory board meetings?

Implementation	Within a month	Within six months	Within a year	More than a year
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

Impact of advisory board recommendations on soft skills

Based on the ideas/recommendations that you ranked as the top positive impacts to students on **page 2 (question 2)**, please answer the following questions.

6) Did any of these implementations positively impact students’ soft skills? Soft skills include punctuality, communication, works well with peers, etc.

Implementation	Yes	No	N/A
✓ Recommendation 1	()	()	()
✓ Recommendation 2	()	()	()
✓ Recommendation 3	()	()	()

7) If Yes, in what ways did these implementations impact students’ soft skills?

- ✓ Recommendation 1 _____

- ✓ Recommendation 2 _____

✓ Recommendation 3 _____

8) If No or N/A, why not? How could these implementations be adjusted to incorporate soft skills training?

✓ Recommendation 1 _____

✓ Recommendation 2 _____

✓ Recommendation 3 _____

Impact of advisory board recommendations on technical skills

Based on the ideas/recommendations that you ranked as the top positive impacts to students on **page 2 (question 2)**, please answer the following questions.

9) Did any of these implementations positively impact students' technical skills?

Implementation	Yes	No	N/A
✓ Recommendation 1	()	()	()
✓ Recommendation 2	()	()	()
✓ Recommendation 3	()	()	()

10) If Yes, in what ways did these implementations impact students' technical skills?

✓ Recommendation 1 _____

✓ Recommendation 2 _____

✓ Recommendation 3 _____

11) If No or N/A, why not? How could these implementations be adjusted to incorporate technical skills training?

✓ Recommendation 1 _____

✓ Recommendation 2 _____

✓ Recommendation 3 _____

Other impacts of advisory board recommendations

Based on the ideas/recommendations that you ranked as the top positive impacts to students on **page 2 (question 2)**, please answer the following questions.

12) To what extent did these changes positively impact students' ability to gain employment? Rate each recommendation's impact on students' ability to gain employment from slightly positive to extremely positive.

Implementation	Slightly positive	Somewhat positive	Very positive	Extremely positive
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

13) In what ways did these ideas/recommendations positively impact students' ability to gain employment?

✓ Recommendation 1 _____

✓ Recommendation 2 _____

✓ Recommendation 3 _____

14) To what extent did these changes positively impact students' ability to be more successful in their careers? Rate each recommendation's impact on students' ability to be more successful in their careers from slightly positive to extremely positive.

Implementation	Slightly positive	Somewhat positive	Very positive	Extremely positive
✓ Recommendation 1	()	()	()	()
✓ Recommendation 2	()	()	()	()
✓ Recommendation 3	()	()	()	()

15) In what ways did these ideas/recommendations positively impact students' ability to be more successful in their careers?

- ✓ Recommendation 1 _____
- ✓ Recommendation 2 _____
- ✓ Recommendation 3 _____

Implementation of advisory board recommendations that had a negative impact

Use the ideas/recommendations that you ranked as the top negative impacts to students on **page 2 (question 3)** to answer the questions on this page. If you answered “N/A” to question 3, skip to question 21 on the next page.

16) When did you incorporate the ideas/recommendations from the advisory board meetings?

Implementation	Within a month	Within six months	Within a year	More than a year
X Recommendation 1	()	()	()	()
X Recommendation 2	()	()	()	()
X Recommendation 3	()	()	()	()

17) In what ways did these ideas/recommendations negatively impact students’ soft skills?

- X Recommendation 1 _____
- X Recommendation 2 _____
- X Recommendation 3 _____

18) In what ways did these ideas/recommendations negatively impact students’ technical skills?

- X Recommendation 1 _____
- X Recommendation 2 _____
- X Recommendation 3 _____

19) In what ways did these ideas/recommendations negatively impact students' ability to gain employment?

X Recommendation 1

X Recommendation 2

X Recommendation 3

20) In what ways did these ideas/recommendations negatively impact students' ability to be more successful in their careers?

X Recommendation 1

X Recommendation 2

X Recommendation 3

Other comments on advisory board recommendations

21) Based on all ranked ideas/recommendations students on **page 2 (questions 2 & 3)**, were there any other impacts to students' knowledge or skills? Do you have any other comments or concerns regarding the advisory board recommendations?

✓ Recommendation 1

✓ Recommendation 2

✓ Recommendation 3

X Recommendation 1

X Recommendation 2

X Recommendation 3

Classroom equipment

22) Were classroom materials (equipment, textbooks, software, etc.) updated or purchased as a result of TAACCCT funding?

() Yes, please explain: _____

() No, please explain: _____

() Planning/in progress, please explain: _____

Collaboration with TAACCCT-funded services

23) Do you work with any TAACCCT-funded services (such as the Career Pathways Specialist or Adult Learner Concierge) to help students?

() Yes

() No [If “No,” skip to question 28 on the next page.]

24) When you work with any TAACCCT-funded services, which services do you work with and how have they helped you with your students?

25) Are these collaborations intended to address advisory board meeting recommendations?

() Yes

() Sometimes

() No

26) Please rate how helpful these collaborations are with TAACCCT-funded services.

Not at all helpful	Rarely helpful	Sometimes helpful	Often helpful	Always helpful
()	()	()	()	()

27) Please explain your response. In what ways are collaborations with TAACCCT-funded services helpful or not helpful?

Current and future advisory board plans

28) Are you currently trying to implement recommendations from Advisory Board meetings?

- () Yes, please explain: _____
() No [If "No," skip to question 31.]

29) How will the TAACCCT Round 3 program ending affect your ability to implement changes?

- () Reduce ability
() No change
() Increase ability

30) Please explain your answer to the previous question (question 29). Why will you have reduced/no change/increased ability to implement changes?

About you

31) How long have you been teaching this program at this school?

- () Less than a year
() One to two years
() Two to three years
() More than three years (please write in): _____ years

32) How do you receive recommendations from advisory board meetings? (select all that apply)

- Attending advisory board meetings
 Meeting minutes via email
 Other, please explain: _____

33) Please rate how often you attend the advisory board meetings.

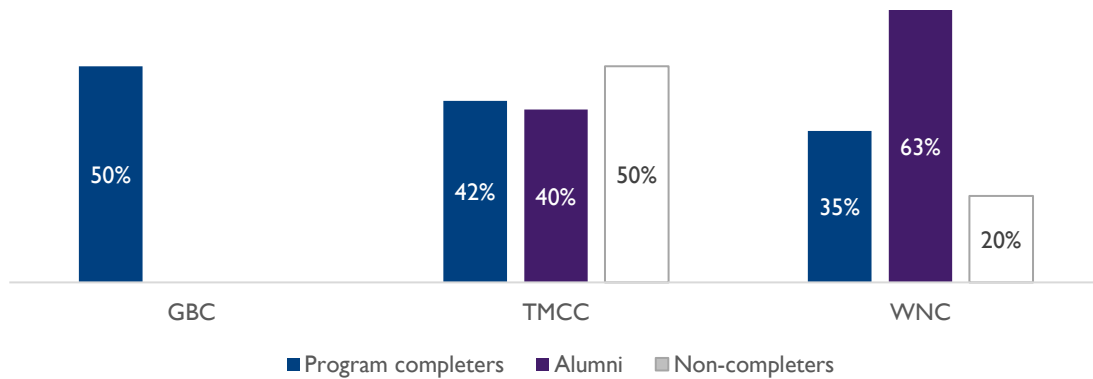
Never attend	Rarely attend	Sometimes attend	Often attend	Always attend
()	()	()	()	()

34) If you attend advisory board meetings, what is your role at these meetings? (select all that apply)

- Facilitator/Moderator
 Notetaker
 Spectator
 Not applicable, please explain: _____
 Other, please explain: _____

Appendix B – Employment by college

Proportion of program completers & alumni employed in field of study after completing program



Program completers employment status by college

Employment status		GBC		TMCC		WNC	
		n	%	n	%	n	%
Employment at beginning	Unemployed	16	21%	21	42%	69	48%
	Part-time	13	17%	8	16%	25	18%
	Full-time	21	27%	17	34%	30	21%
	Internship	14	18%	0	0%	0	0%
	Other	13	17%	4	8%	19	13%
	Total	77		50		143	
In field of study	Yes	24	48%	2	29%	5	23%
	No	26	52%	5	71%	17	77%
	Total	50		7		22	
Employment status at end	Unemployed	16	21%	18	35%	63	45%
	Part-time	13	17%	9	18%	28	20%
	Full-time	25	33%	19	37%	33	23%
	Internship	9	12%	1	2%	0	0%
	Other	13	17%	4	8%	17	12%
	Total	76		51		141	
In field of study	Yes	24	50%	5	42%	9	35%
	No	24	50%	7	58%	17	65%
	Total	48		12		26	
Current hourly wage		16.24		15.60		13.33	

Alumni and non-completers employment status by college

Employment Status		TMCC		WNC	
Alumni		n	%	n	%
Employment status at beginning of program (2017 respondents only)	Unemployed	1	50%	1	50%
	Part-time			1	50%
	Full-time	1	50%		
	Internship				
	Other				
	Total		2		2
Previously employed in field of study (2017 respondents only)	Yes				
	No	1	100%	1	100%
	Total	1		1	
Employment status at end of program	Unemployed	2	17%	2	20%
	Part-time	2	17%		
	Full-time	7	58%	7	70%
	Internship				
	Other	1	8%	1	10%
	Total	12		10	
Employed in field of study at end of program	Yes	4	40%	5	63%
	No	6	60%	3	38%
	Total	10		8	
Non-completers					
Employment status at beginning of program (2017 respondents only)	Unemployed				
	Part-time				
	Full-time	1	100%	3	100%
	Internship				
	Other				
	Total	1		3	
Previously employed in field of study (2017 respondents only)	Yes	1	100%	2	67%
	No			1	33%
	Total	1		3	
Employment status at end of program	Unemployed	1	14%	2	29%
	Part-time	2	29%	2	29%
	Full-time	4	57%	3	43%
	Internship				
	Other				
	Total	7		7	
Employed in field of study at end of program	Yes	3	50%	1	20%
	No	3	50%	4	80%
	Total	6		5	

Alumni and non-completers time to gain employment after college exit

College	Time of employment	Fall 2014	Spring 2015	Summer 2015	Fall 2015	Spring 2016	Summer 2016	Fall 2016	Total	
Alumni									Frequency	Percentage
TMCC	Already employed in current position			1				2	3	30%
	Less than 3 months			1	2		1		4	40%
	3 – 6 months				2				2	20%
	6 months – 1 year		1						1	10%
	Total								10	100%
WNC	Already employed in current position					3			3	38%
	Less than 3 months								0	0%
	3 – 6 months		1					2	3	38%
	6 months – 1 year	1	1						2	25%
	Total								8	100%
Non-completers										
TMCC	Already employed in current position				3	1		1	5	83%
	3 – 6 months						1		1	17%
	Total								6	100%
WNC	Already employed in current position		1			1	1	2	5	100%
	3 – 6 months								0	0%
	Total								5	100%

Appendix C – Advisory board recommendations

College	Program	Recommendation	Implemented
GBC	Industrial Millwright Technology (n=2)	Develop new curriculum to correspond with NCCER	✓
		Add installation to classes to fit employer needs	
		Allow students to do machining	
		Incorporate FLRA into classes	✓
		Students take MSHA	
		Instructors call supervisors once a semester	✓
		Make hydraulics class longer	
		Give students more shop time	✓
		Use grant funds to pay for students' MSHA training	
		Offer morning and afternoon courses	✓
	Instructors meet with students and their work supervisors	✓	
	Instrumentation (n=1)	Additional training for students (AutoCAD, PLC, DCS)/ Integrate PLC and DCS training via Rockwell Automation	✓
		Rockwell industry trainers/ Buy 10 Rockwell training workstations	✓
		Additional training for instructors / Boiler training	✓
	Welding (n=2)	Create performance assessment-based challenge exam for incoming high school students	
		AWS credentialing	✓
		NCCER Oxy Fuel Training	✓
		Take students to visit SAS Global to introduce them to the workplace	
		May have to discontinue student worker program	
		Increase training in pipe fitting	
Stay with stick welding			
TMCC	Machining (n=3)	New CNC equipment	✓
		New Inspection equipment	✓
		Apprenticeships	✓
		Solid works	
		Open entry courses	
		Continue using MasterCam software	
		Add sink to lab and ceiling on offices at Edison Campus	✓
		Acquire vision system	✓
		Increase development of soft skills	✓
		Continue to not teach repair (no rank)	✓
	Continue to not focus on set up	✓	
	Production Technician (n=3)	Teach students to use log book to document maintenance issues	
		Increase electrical systems training	
Add mill-turn as option for credentialing			
Restructure MPT 140 Quality Control		✓	
Survey advisory board and other industry members for skills gap in current curriculum.			
Production Technician (n=3)	Revamp of curriculum for MPT 135 (Materials Handling) to focus more on material handling equipment and safety.	✓	
	Revamp of curriculum for MPT 140 (Quality Control) to focus on LEAN Manufacturing, Precision Measurement, and Continual Improvement.	✓	
	Look into MSSC and PMMI external certifications to imbed into curriculum.		

College	Program	Recommendation	Implemented	
WNC	Welding (n=3)	Look into FANUC, Siemens, and SCADA topic integration into Program.		
		Work with employers to offer classes at different times of the day	✓	
		Train students for troubleshooting and ability to understand different systems	✓	
		Create advanced courses for the industry	✓	
		More lab work and better reading for programmable logic controllers (PLCs)	✓	
		More instruction on sensors and instrumentation	✓	
		Removal of hydraulic trainer from program	✓	
		More offered certifications	✓	
		More equipment trouble shooting	✓	
		More measurements and math	✓	
		Use the Career Readiness test before entering the program	✓	
		Add fabrication to coursework	✓	
		AIT (n=2)	Continue to connect with employers for outreach and marketing	✓
			Continue to tie classes and programs to actual job needs	
	Post job opening for students in classes			
	Collaborate with Carson City Library on MTI Certificate Program to bring SolidWorks software into the main branch of the library			
	Establish a service center for veterans			
	CISCO (n=4)	Offer summer courses in CISCO	✓	
		Work to offer classes via distance in a better format	✓	
		Offer entry level CCNA certifications	✓	
		Acquire two more racks of servers	✓	
		Offer accelerated courses	✓	
	Machine Tool (n=2)	Develop and offer potential internship opportunities		
		Offer Pro-metric testing		
		Implementation of an accelerated laborer course	✓	
		More Solidworks in class/Solidworks blended with class	✓	
		More intensive blueprint reading	✓	
		Less manual machines and more CNC knowledge		
		Easier pathways for Job Connect and JOIN to gather and communicate information		
		More lecture on measuring devices	✓	
		Align manufacturing programs with participants		
		Find internship placements	✓	
		Support faculty development	✓	
Update website to better promote the program				
Develop math skills among students		✓		
Welding (n=3)	Documentation/Coverage of success and positive community impact results			
	Find other grants to continue these programs			
	Continue to implementation of math, English, and other soft skills	✓		
	Class size is too large			
	More instructors and teaching assistants to increase one on one learning	✓		
	Continue to replace obsolete equipment/Continue to add state of the art equipment to meet the current and future needs of industry	✓		

College	Program	Recommendation	Implemented
		Increase outreach and recruitment efforts for veterans and underserved community populations	
		Provide instruction on interview skills and attitude	✓
		Support accelerated program in Fallon	✓
		Incorporate drafting class and mathematics into accelerated program	✓
		Bring real life situations into the teaching material	✓

Appendix D – Advisory board impact on technical skills

College	Program	Recommendation	Frequency of positive ratings 2017-18
TMCC	Machining (n=3)	Apprenticeships	
		New CNC equipment	
		New Inspection equipment	
	Production Technician (n=3)	Revamp of curriculum for MPT 135 (Materials Handling) to focus more on material handling equipment and safety.	
		Revamp of curriculum for MPT 140 (Quality Control) to focus on LEAN Manufacturing, Precision Measurement, and Continual Improvement.	
		More equipment trouble shooting	
	Welding (n=3)	More measurements and math	
		More offered certifications	
		AIT (n=2)	Continue to connect with employers for outreach and marketing
WNC	CISCO (n=4)	Acquire two more racks of servers	
		Offer entry level CCNA certifications	
	Machine Tool (n=2)	More intensive blueprint reading	
		More lecture on measuring devices	
	Welding (n=3)	Continue to implementation of math, English, and other soft skills	
		Continue to replace obsolete equipment/Continue to add state of the art equipment to meet the current and future needs of industry	
		More instructors and teaching assistants to increase one on one learning	

Appendix E – Advisory board impact on soft skills

College	Program	Recommendations	Frequency of positive ratings	
			2016-17	2017-18
GBC	Industrial Millwright Technology (n=2)	Give students more shop time	1	
		Develop new curriculum to correspond with NCCER	1	
	Machining (n=3)	Increase development of soft skills	2	
		Apprenticeships		1
TMCC	Production Technician (n=3)	Train students for troubleshooting and ability to understand different systems	2	
		More instruction on sensors and instrumentation	2	
		Revamp of curriculum for MPT 140 (Quality Control) to focus on LEAN Manufacturing, Precision Measurement, and Continual Improvement		1
		Welding (n=3)	More measurements and math	2
	Welding (n=3)	Add fabrication to coursework	2	
		Collaborate with Carson City Library on MT I Certificate Program to bring SolidWorks software into the main branch of the library	1	
	AIT (n=2)	Continue to connect with employers for outreach and marketing		1
		CISCO (n=4)	Work to offer classes via distance in a better format	
WNC	Machine Tool (n=2)	Offer accelerated classes	1	0
		Bring real life situations into the teaching material	2	
	Welding (n=3)	Provide instruction on interview skills and attitude	2	
		Continue to implementation of math, English, and other soft skills		1
		Continue to replace obsolete equipment/Continue to add state of the art equipment to meet the current and future needs of industry		1
	More instructors and teaching assistants to increase one on one learning		1	

Appendix F – Advisory board impact on employability

College	Program	Recommendations	Frequency of positive ratings	
			2016-17	2017-18
GBC	Industrial Millwright Technology (n=2)	Give students more shop time	1	
		Incorporate FLRA into classes	1	
		Offer morning and afternoon courses	1	
		Develop new curriculum to correspond with NCCER	2	
	Instrumentation (n=1)	Additional training for students (AutoCAD, PLC, DCS) / Integrate PLC and DCS training via Rockwell Automation	1	
		Rockwell industry trainers / Buy 10 Rockwell training workstations	1	
		Additional training for instructors / Boiler training	1	
	Welding (n=2)	AWS credentialing	2	
		NCCER Oxy Fuel Training	2	
	Machining (n=3)	Acquire vision system	1	
Increase development of soft skills		1		
Restructure MPT 140 Quality Control		2		
Continue using MasterCam software		2	0	
Apprenticeships			1	
New CNC equipment			1	
New Inspection equipment			1	
TMCC	Production Technician (n=3)	Create advanced courses for the industry	1	
		More lab work and better reading for programmable logic controllers (PLCs)	1	
		Train students for troubleshooting and ability to understand different systems	2	
		Work with employers to offer classes at different times of the day	1	
	Welding (n=3)	More instruction on sensors and instrumentation	1	
		Revamp of curriculum for MPT 135 (Materials Handling) to focus more on material handling equipment and safety.		1
		Revamp of curriculum for MPT 140 (Quality Control) to focus on LEAN Manufacturing, Precision Measurement, and Continual Improvement.		1
		More measurements and math	2	1
		Add fabrication to coursework	2	
		Use the Career Readiness test before entering the program	1	
	More equipment trouble shooting		1	
	More offered certifications		1	

College	Program	Recommendations	Frequency of positive ratings	
			2016-17	2017-18
WNC	AIT (n=2)	Continue to connect with employers for outreach and marketing		1
		Acquire two more racks of servers	2	1
	CISCO (n=4)	Offer accelerated classes	2	0
		Offer entry level CCNA certifications	2	1
		Work to offer classes via distance in a better format		1
		More intensive blueprint reading		1
	Machine Tool (n=2)	More lecture on measuring devices		1
		More Solidworks in class/Solidworks blended with class		1
		Purchase equipment	2	1
	Welding (n=3)	Fund teaching assistants	2	1
		Bring real life situations into the teaching material	1	
		Support accelerated program in Fallon	1	
		Continue to implementation of math, English, and other soft skills		1

Appendix G – Advisory board impact on career readiness

College	Program	Recommendations	Frequency of positive ratings	
			2016-17	2017-18
GBC	Industrial Millwright Technology (n=2)	Give students more shop time	1	
		Incorporate FLRA into classes	1	
		Offer morning and afternoon courses	1	
		Develop new curriculum to correspond with NCCER	2	
	Instrumentation (n=1)	Additional training for students (AutoCAD, PLC, DCS) / Integrate PLC and DCS training via Rockwell Automation	1	
		Rockwell industry trainers / Buy 10 Rockwell training workstations	1	
		Additional training for instructors / Boiler training	1	
	Welding (n=2)	AWS credentialing	2	
		NCCER Oxy Fuel Training	2	
	Machining (n=3)	Acquire vision system	2	
Increase development of soft skills		1		
Restructure MPT 140 Quality Control		2		
Continue using MasterCam software		2	0	
Apprenticeships			1	
New CNC equipment			1	
New Inspection equipment			1	
TMCC		Create advanced courses for the industry	1	
		More lab work and better reading for programmable logic controllers (PLCs)	1	
		Train students for troubleshooting and ability to understand different systems	2	
	Production Technician (n=3)	Work with employers to offer classes at different times of the day	1	
		More instruction on sensors and instrumentation	1	
		Revamp of curriculum for MPT 135 (Materials Handling) to focus more on material handling equipment and safety.		1
		Revamp of curriculum for MPT 140 (Quality Control) to focus on LEAN Manufacturing, Precision Measurement, and Continual Improvement.		1
	Welding (n=3)	More measurements and math	2	1
		Add fabrication to coursework	2	
		Use the Career Readiness test before entering the program	1	

College	Program	Recommendations	Frequency of positive ratings	
			2016-17	2017-18
		More equipment trouble shooting		1
		More offered certifications		1
WNC	CISCO (n=4)	Acquire two more racks of servers	2	1
		Offer accelerated classes	2	0
		Offer entry level CCNA certifications	2	1
		Work to offer classes via distance in a better format		1
	Welding (n=3)	Purchase equipment	2	1
		Fund teaching assistants	2	1
		Bring real life situations into the teaching material	1	
		Support accelerated program in Fallon	1	
		Continue to implementation of math, English, and other soft skills		1