

FINAL EXTERNAL EVALUATION REPORT

TRADE ADJUSTMENT ASSISTANCE COMMUNITY COLLEGE AND CAREER TRAINING PROGRAM

Clovis Community College

David L. Caffey, Evaluation Consultant, September 2016

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I. Clovis Community College TAACCCT Intervention/Activities: Allied Health Expansion

In 2012, Clovis Community College was invited to submit a proposal for Round 2 of the Trade Adjustment Assistance Community College and Career Training (TAACCCT) program.

The original proposal was focused on (1) creation of an “inclusive” path to attainment of the Associate of Applied Science in Nursing (NSG), in which students would complete general education requirements and prerequisites concurrent with major courses; (2) development of a Physical Therapist Assistant (PTA) program; and (3) creation of a Health Information Technology (HIT) program. The HIT concept proved to be an impractical goal, so the third initiative shifted to a major update of Radiologic Technology (RADT) equipment and techniques to introduce digital radiographic imaging knowledge and processes. The project also included provisions for retention and success of students, as well as preparation for job search and employment; and investment in data analysis for student tracking and assessment of project initiatives and academic success.

Clovis is located in a relatively sparsely populated rural region in eastern New Mexico. Roughly 100,000 area residents depend on its healthcare resources for primary care, emergency services, and many areas of specialty practice, including cancer care and treatment. The area has significant agricultural activity and a large Air Force base, but little industry. These facts lead to health care as an occupational cluster that addresses local needs and provides significant career opportunity to students who finish rigorous education and training programs and meet licensure requirements. With a long history in nursing education and exceptional success in preparing its graduates to achieve licensure, obtain employment, and forge distinguished careers in nursing practice and leadership, CCC had a strong base upon which to build in Allied Health education.

Proposed Interventions and Projected Outcomes

Inclusive Nursing Pathway. The CCC nursing program traditionally has served a mature adult population, including many students who are returning to school after an interval of raising families, working, and other activities. A large proportion of these students have responsibilities and work part-time while attending school. The inclusive program was intended to serve a small but growing number of students who want to pursue nursing degrees immediately following high school graduation, who are able and desirous of being full-time students and moving through the complete nursing curriculum without delay or interruption. These students were to form a cohort that would proceed through the program together; those selected would be entirely prepared for college studies, requiring no remediation in English or mathematics. The cohort would be guided by one or two instructors who would teach substantial portions of the nursing major and mentor students as needed to support their overall success in the overall program.

Implementation success was to be determined by qualitative means, including interviews with students and instructors, as well as monitoring of usual measures of success of students and of the cohort as a sustainable structure for delivery of the nursing program. *Impact* was designed to be measured via a quasi-experimental comparison of the inclusive nursing cohort to traditional nursing students, focusing on the selected TAACCCT program measures of (1) completion of a TAACCCT-funded program of study, (2) retention in the program, and (3) successful completion of courses toward attainment of the Associate of Applied Science in Nursing degree.

Physical Therapist Assistant Program Development. Physical Therapist Assistant (PTA) was assessed as a need locally and regionally among healthcare professions. Clovis Community College proposed to develop a new program, realizing the complexity involved in obtaining the requisite resources, including qualified faculty, facilities and equipment, and accreditation by the cognizant governing authority for PTA education programs. CCC is experienced in the processes

of program development and implementation, and devised an orderly, sequential plan for making the PTA program a reality. The College identified facilities that could be remodeled to a need for classroom, laboratory, office and supply spaces. Faculty recruitment was an early task, followed by curriculum development, equipment acquisition, application for accreditation candidacy, and announcement of the program to students who could complete general education and prerequisite requirements in anticipation of application for admission to the program major.

Implementation was assessed with reference to success in obtaining necessary human and material resources, and in negotiating the multi-step process of attaining candidacy; as well as in recruiting and retaining successful students and sustaining an ongoing program. *Impact* was to be measured by quasi-experimental comparison of the PTA cohort with a comparable health careers cohort—tentatively in Emergency Medical Services. Cohorts would be compared on the basis of designated TAACCCT program measures: (1) completion of a designated program of study, (2) retention in the program, and (3) successful completion of courses needed for graduation.

Radiologic Technology Digitization of Imaging. CCC's third initiative involved upgrade of imaging equipment to support a change from analog to digital imaging. This allows for update of curricula and laboratory experience to better prepare students for current practice in the health care workplace. With consultation from practitioners at CCC's clinical partner sites, equipment was identified for purchase, acquired, and incorporated into the teaching curriculum, lab activity, and testing, largely but not entirely replacing content related to the older analog technology.

Implementation outcome was to be determined by acquisition, installation, and operation of the new equipment, and by instructor and student satisfaction with the equipment and related curriculum, as well as response of clinical instructors to the levels of expertise demonstrated by students in clinical experiences. *Impact* was designed to be measured via a quasi-experimental comparison of control group cohorts (Fall 2010 and Fall 2011 beginning students) to treatment or

experimental cohorts (Fall 2013 and 2014 new RADT students). The transitional cohort of Fall 2012 was not included in the study, and the 2015 cohort had not reached completion. Comparison was on the basis of designated TAACCCT program measures: (1) completion of a TAACCCT-funded program of study, (2) retention in the program, and (3) successful completion of courses toward attainment of the Associate of Applied Science in Radiologic Technology degree.

Projected outcomes, in addition to capacity-building outcomes reflected in descriptions of initiatives, are found in annual and overall targets for mandated TAACCCT outcome measures. A summary table of targets and related outcome measures appears later in this report.

II. Evaluation Design

Implementation was largely equated with process, qualitative or formative evaluation, and was assessed by means of interviews, focus groups, and surveys of project staff, faculty, students and administrative leaders. A review of facility renovations undertaken to accommodate funded programs and an audit of equipment purchases and use in the programs provided further evidence regarding the quality of project implementation. Timeliness of implementation and efficiency in use of budget resources were also considered.

Impact was assessed via review of performance indicators relative to targets set for nine outcome measures designated by the U.S. Department of Labor for the TAACCCT program. The quasi-experimental comparison undertaken is intended to establish linkage or causality between project initiatives and changes in selected outcome measures. Agency expectations for evaluation pre-suppose, perhaps to a greater degree than the TAACCCT program concept overall, initiatives that introduce interventions intended to improve student outcomes. In reality, the program likely provides needed opportunity for grantees to create new programs and improve existing programs that are already doing well in terms of measurable outcomes, but that are in need of updating and improvement in equipment, technology, and method. Where students are persisting and finishing

programs at high rates, passing licensure examinations and obtaining employment related to their training, the hope would be that modified and newly created programs achieve comparable levels of success. Likewise, initial agency expectations for evaluation of impact appeared to assume large numbers of students engaged in comparable activities, supporting large-scale comparisons and sophisticated statistical analysis. In reality, few community colleges, especially those in rural settings, are able to generate numbers needed to support such studies; thus the practical aim is to produce the best possible information relative to conditions. Impact assessment also considers changes in capacity, including changes in enrollment, portending future gains in other outcomes.

Comparison among the three pairs of treatment and control groups was to be on the basis of three of the nine designated TAACCCT indicators—indicators of significant outcomes—ones for which data would be readily obtainable without reliance on third party providers.

Outcome Measure	TAACCCT Quasi-Experimental Comparison				Data From:	
	Target Group		Comparison			
	Annual	Total	Annual	Total		
TOTAL NUMBER OF PARTICIPANTS COMPLETING A TAACCCT-FUNDED PROGRAM OF STUDY. (OUTCOME 2)	Year 1: _____ Year 2: _____ Year 3: _____	# _____% _____	Year 1: _____# _____ Year 2: _____% _____ Year 3: _____	# _____% _____	Completion of Co-Enrollment LPN, Radiologic Technology, or PTA, per Allied Health Advisor or Banner system report data.	
TOTAL NUMBER OF PARTICIPANTS STILL RETAINED IN THEIR PROGRAM OF STUDY OR OTHER TAACCCT-FUNDED PROGRAM. (OUTCOME 3)	Year 1: _____ Year 2: _____ Year 3: _____	# _____% _____	Year 1: _____# _____ Year 2: _____% _____ Year 3: _____	# _____% _____	Allied Health Advisor's roster of student C-numbers is run against Banner data for current enrollees to determine two-semester or one year retention.	
TOTAL NUMBER OF PARTICIPANTS COMPLETING CREDIT HOURS. (OUTCOME 4)	Year 1: _____ Year 2: _____ Year 3: _____	# _____% _____	Year 1: _____# _____ Year 2: _____% _____ Year 3: _____	# _____% _____	Run identifying numbers for each cohort against Banner data and aggregate the data for each group.	

Tests of significance of difference, such as the T-test and Chi Square were to be applied to observed data for treatment and comparison groups, as measures of the direction and magnitude of the impact of the project in producing a positive result in relation to expectations. Target and

comparison groups were identified, such that six groups of student ID numbers could be used to assemble aggregate data to compare group outcomes. Groups to be compared were these:

Initiative	Treatment Group	Comparison Group
Inclusive Nursing Option	Co-Enrollment Nursing Cohorts	“Traditional” Nursing Students
Radiologic Technology	Students after TAACCCT upgrades	Previous two RADT Student Cohorts
Develop a PTA Program	Physical Therapy Assistant Cohorts	Emergency Medical Services Cohorts

In practice, student numbers were too small to support application of preferred tests of impact, addressing *causality* as well as difference. The Chi Square test, as modified for use with small samples, provided a basic indicator of *significance of difference* between two proportions representing each pair of treatment and control groups.

III. Implementation Findings

In order to gather subjective data on project implementation, a site visit was conducted on August 30, 2016. The purpose was to interview staff and stakeholders, with emphasis on overall implementation from the project’s inception to its approaching completion.

Individuals Consulted On Site

Mindy Watson, Director of Federal Programs

Shawna McGill, Division Chair, Allied Health, and Director of the Nursing Program

Brandi Varnado, Program Director, Physical Therapist Assistant

Robin Broom, Instructor, Physical Therapist Assistant

Melissa Ham, Program Director, Radiologic Technology

Robin Jones, Executive Vice President

Documents Consulted

TAACCCT project proposal and amendments

Year 1 annual performance report

Report and follow-up correspondence for Department of Labor site review

TAACCCT guidance documents for evaluation

Institutional Data Summary

Facilities Visited

Radiologic Technology technology-enhanced classroom

Radiologic Technology radiographic imaging laboratory

TAACCCT-Designated Research Questions for Implementation Evaluation

The TAACCCT-designated questions are most applicable in the case of an initiative that involves creation of a program, rather than capacity enhancement or curriculum/material upgrade of already-successful programs. Thus responses to the following questions from the TAACCCT program announcement inviting proposals necessarily emphasizes the initiative for development of a Physical Therapist Assistant program—an effort that created an entirely new program option for CCC students while increasing overall training capacity in Allied Health fields.

1. How was the particular curriculum selected, used, or created? Learning objectives for the PTA program are specified by the cognizant specialized accrediting body, the Commission on Accreditation in Physical Therapy Education (CAPTE). Both faculty members for PTA were employed early in the program development process and created curriculum compliant with the required program objectives. The faculty opted for a 1 + 1 program configuration, meaning that students complete general education, related requirements, and prerequisites prior to completing the PTA major in the second year; this was in preference to the 2-year integrated program model in which general education and prerequisites are taken alongside major courses. The 1 + 1 model works well locally, since some students are related to the local Air Force base and are subject to relocation, and others will likely relocate to Clovis to earn the PTA degree and achieve licensure. Concentration reduces student cost, increases flexibility, and teaches PTA theory and skills in an immersion environment, in which total attention is focused on professional knowledge and skills. The instructors assess consistently at the course level to confirm approaches that are working and identify modifications needed. Item analyses on PTA tests have mainly affirmed the effectiveness of curricula and teaching/learning activities as originally contemplated.

In RADT, the activity involved incorporation of digital imaging equipment and technique that is rapidly becoming the standard in radiography; it introduced new options for simulation of

radiography techniques and situations, and allowed instructors to demonstrate rather than lecture on topics such as physical therapist assistant and patient safety *vis a vis* applications of radiation. The nursing initiative involved reconfiguration of existing, proven curricula to increase program capacity and more fully accommodate the varied needs of students.

2. How were programs and program design improved or expanded using grant funds?

What delivery methods were offered? What was the program administrative structure? What support services and other services were offered? The TAACCCT grant supplied essential funds for faculty to develop and pilot new programs and program modifications, purchase equipment matching current and anticipated professional practice and workplace conditions, assess learning and modify instruction as indicated, and otherwise carry the proposed initiatives into action. The grant also supported the Physical Therapist Assistant accreditation effort and provided programs with data support, including student tracking, through department-level data collection as well as acquisition and implementation of the ARGOS enterprise reporting system. Instructional delivery methods include lecture, laboratory practice, supervised clinical experience, simulation, video lectures and “flipped classroom” approach, and video-aided critique of skill performance.

3. Did the grantees conduct an in-depth assessment of participants' abilities, skills and interests to select participants into the grant program? What assessment tools and process were used? Who conducted the assessment? Were assessments useful in determining an appropriate course sequence? How were the assessment results used? What career guidance was provided?

PTA instructors developed a complete applicant intake, assessment, and selection process based on a point system to ensure equitable, merit-based admission to the limited-enrollment program. Factors considered include grade point average, math and science course grades with premium for first-time pass, and Kaplan Allied Health admission exam scores. Applicants are required to complete a minimum of 20 hours of clinical observation, with higher points awarded for those

who exceed the minimum. Students must apply by June 1 for new cohort beginning in October; determinations are made and applicants notified by September 1, giving approximately 6 weeks for students to accept appointment and adjust their plans and commitments accordingly. This process has thus far proven effective in admitting students who have the ability and commitment to persist and succeed in the program. The initial nine-student cohort is diverse in age, ethnicity, and gender. Radiologic Technology and Nursing have similar, established assessment processes to optimize student success and ensure equitable access to those programs.

4. What contributions did partners make in terms of (1) program design, (2) curriculum development, (3) recruitment, (4) training, (5) placement, (6) managing programs, (7) leveraging of resources, and (8) sustainability? What influenced partner involvement? Which contributions were critical to success, and which had lesser impact? In all programs, the most critical partners are the healthcare providers that agree to offer clinical placement to students. Many of the same institutions and individuals also help make up the program advisory committees that consult on curriculum needs and keep instructors informed regarding trends in employment, environmental factors, and evolving skill needs. Clinical partners are directly involved in training of students, and in assessment of their mastery of essential skills. The local New Mexico workforce agency has also been an essential partner, providing financial aid to many qualifying students (100% of the current PTA cohort) and sometimes working with College to share employment/wage data. Larger clinical providers, such as hospitals, tend to have sufficient staffing to allow for greater participation in clinical partnership and advisory committee activities; smaller sites, while still vital and supportive, sometimes lack the staff time to afford fuller participation. Partners often refer students to the programs and are generally eager employers of CCC allied health graduates.

Project Successes and Best Practices

- The Physical Therapist Assistant program initiative was a high priority for the grantee, in

that it produced a program responsive to student and employer needs, that CCC could not offer before. Despite numerous hurdles and delays in hiring faculty and satisfying criteria for accreditation candidacy, the program developed appears to be first rate. An evaluation team for CAPTE, the accrediting body for radiography programs, visited in summer 2016 and gave extremely positive feedback concerning program design, material support, and performance to date. Clovis Community College invested heavily in the program, with an \$800,000 state general obligation bond being committed to renovate the spaces that PTA occupies. Administrative response indicates that the College is extremely happy with the program and its progress and is fully committed to sustaining it on a permanent basis.

- What began as a transition from analog to digital imaging processes in CCC's Radiologic Technology program turned out to yield greater benefits, including increased opportunity for simulation, demonstration, and experiential learning in concepts for which instruction was formerly mainly didactic. With digital imaging came increased use of phantoms—mannequins configured as patients with texture and parts that respond to x-ray exposure much as a patient would to produce realistic images. The approximately \$130,000 cost of the digital imaging unit and the cost of adult, pediatric, and neonatal phantoms—\$10,000 to several times that much—would not have been feasible without some form of external funding. The result, in the view of the program's director, was an essential update of imaging technology, increased student learning, increased engagement of students who could see and experience concepts rather than just read or hear about them; and increased interest in the program, competition for student “slots,” and the consequent admission of students who, on average, are very well prepared and motivated to learn and succeed.
- Through experience with the Department of Labor TAACCCT grant, a departure from CCC's extensive experience with Department of Education grants, the College was able

to learn new tools and processes of grant administration, leading to more systematic and accountable use of resources to obtain positive outcomes. In meeting rigorous standards of the DOL, Clovis Community College was able to strengthen its processes for data collection, documentation, and accountability for funds and performance; these lessons will be applicable in CCC's approach to other awards that it administers.

Works in Progress

A few items in this ambitious project met with challenges that delayed achievement or brought about significant modification of original plans.

- Implementation of the ARGOS Enterprise Reporting Solution met with various delays, but remains a valued objective for the college and the work will continue at institutional expense. The promise of ARGOS is that it will produce broadly accessible, immediately useful management information from the institutional student data system. A functioning ARGOS system will put data access directly in the hands of authorized managers across the campus and eliminate much custom coding to write needed reports; the system also supports a “dashboard” feature, making it possible to display the most-used data in user departments in a real-time, full-time mode. Given the need to track TAACCCT program participants and comparison group students, the ARGOS initiative was a good fit for the project, but it will benefit users across the institution.

As is frequently the case with IT initiatives, ARGOS required intensive IT staff acquisition of knowledge and effort to implement in coordination with existing systems. Since the grant did not provide for in-house staffing to accomplish the work, the College relied on existing staff with heavy workload commitments and contracted providers who would not be on hand as the system rolled out. At present, there are several persons on campus who can extract usable reports from the ARGOS system, but CCC continues to

rely on its older Hyperion report writer, which was expected to phase out. The work to operationalize all anticipated functions of ARGOS system will continue, and the College anticipates realizing full benefit of the local and federal investments in it. In retrospect, an alternative approach might have been to fund a technician position to work on ARGOS, anticipating that a regular staff vacancy could facilitate the person's retention post-grant.

- The creation of an inclusive nursing program was intended to increase overall capacity of the nursing program while addressing perceived needs of a specific group of students. The program schedule allowed for students to take general education and prerequisite courses simultaneous with program major courses; an entering student needing no remediation and attending full time could complete the program sooner. Cohort capacity was set at 30—the number of additional students the program could take annually with a new group starting each fall semester. The cohort accepted for Fall 2013 experienced very high attrition, and other issues surfaced. The concentration of student experience with just the two instructors assigned to the alternative schedule was not ideal for all.

The cohort of inclusive program students continued to completion, and 12 of the original group of 27 students completed an LPN certificate and/or AAS degree within 3 years. Believing that the model did not represent the best use of resources for the nursing program, the faculty developed a *year-round program* with a structured summer term to replace the inclusive program. This approach differs in needs s, providing for a slower pace and perhaps appealing to students who are juggling multiple commitments. This approach, popular thus far, increases overall nursing program capacity by 32 students.

- A working partnership with New Mexico Workforce Solutions, the cognizant agency for labor and workforce issues, is assumed in the TAACCCT program. It is important for: (1) referral of TAA-eligible individuals for placement in TAACCCT-supported or other CCC

career training programs; (2) scholarship support available to qualifying participants; (3) assistance with employment for TAA-eligible and other CCC program completers referred by the College; and (4) sharing of unemployment insurance system employment and wage data to facilitate evaluation of employment success for TAACCCT program participants.

High turnover in key workforce support positions at the agency and at CCC has probably retarded full realization of the potential benefits of this partnership. On the positive side, numerous students, including all members of the first Physical Therapist Assistant cohort, have received scholarships through Workforce Solutions. Development of systems giving convenient access to employment and wage data, in a manner compliant with privacy and other applicable regulations, remains an unrealized goal. An ideal system will offer access to interstate data, particularly as CCC regularly serves New Mexico and Texas residents.

Lessons Learned and Unanticipated Consequences

- The TAACCCT experience helped CCC improve grant administration and accountability. CCC will apply many of these practices to strengthen administration of other awards.
- Investment in new and improved programs helped solidify CCC's reputation for quality allied health education. The improvements will help attract new students. Instructors in related general education disciplines are more fully integrated in the allied health team.
- While CCC is well pleased with its new Physical Therapist Assistant program, experience in the project has shown that it would be best to check out accreditation requirements and timelines that may impact ability to complete the full program cycle required for reporting.
- The State of New Mexico, hence state-funded entities like CCC, are in budget difficulty. However, when the grant project creates and improves *mission-related programs* that are self sustaining, there is not much question as to their being institutionalized post-grant.

IV. Participant Impacts and Outcomes

The following table displays CCC results for nine TAACCCT outcome measures. Data were derived from the institutional data system and project-specific data gathered by project and department personnel. Some items may be incomplete; updates based on the project's adjusted end date will be included in the project director's final performance report.

TAACCCT Project Outcomes (October 1, 2012 through September 30, 2016)						
Outcome Measures and Criteria	Data Targets		Actual Data			
	Annual	Total	Year 1	Year 2	Year 3	Total
1. TOTAL UNIQUE PARTICIPANTS SERVED. Aggregate number of participants over the 3-year term of the project.	Year 1: 47 Year 2: 63 Year 3: 67	177	78	43	15	136
2. TOTAL NUMBER OF PARTICIPANTS COMPLETING A TAACCCT-FUNDED PROGRAM OF STUDY.	Year 1: 43 Year 2: 57 Year 3: 61	161	0	34	20	54
3. TOTAL NUMBER OF PARTICIPANTS STILL RETAINED IN THEIR PROGRAM OF STUDY OR OTHER TAACCCT-FUNDED PROGRAM.	Year 1: 43 Year 2: 56 Year 3: 60	159	78	43	42	163
4. TOTAL NUMBER OF PARTICIPANTS COMPLETING CREDIT HOURS. Aggregate number of participants	Year 1: 47 Year 2: 63 Year 3: 67	177	39	70	61	170
5. TOTAL NUMBER OF PARTICIPANTS EARNING CREDENTIALS. Aggregate number of credentials earned.	Year 1: 43 Year 2: 57 Year 3: 61	161	42	34	42	118
6. TOTAL NUMBER OF PARTICIPANTS ENROLLED IN FURTHER EDUCATION AFTER TAACCCT-FUNDED PROGRAM OF STUDY COMPLETION. Aggregate number of participants, complete one program credential and continue.	Year 1: 0 Year 2: 43 Year 3: 57 Year 4: 61	161	0	4	6	10
7. TOTAL NUMBER OF PARTICIPANTS EMPLOYED AFTER TAACCCT-FUNDED PROGRAM OF STUDY COMPLETION.	Year 1: 0 Year 2: 35 Year 3: 45 Year 4: 45	125	0	18	12	30
8. TOTAL NUMBER OF PARTICIPANTS RETAINED IN EMPLOYMENT AFTER PROGRAM OF STUDY COMPLETION.	Year 1: 0 Year 2: 0 Year 3: 35 Year 4: 45	80	0	7	6	13
9. TOTAL NUMBER OF THOSE PARTICIPANTS EMPLOYED AT ENROLLMENT WHO RECEIVED A WAGE INCREASE POST-ENROLLMENT.	Year 1: 0 Year 2: 0 Year 3: 0 Year 4: 0	0	0	0	6	6

Source of Data: CCC TAACCCT Project Annual Performance Reports

Development of an Inclusive Nursing Program Option

“Inclusive” refers to a program design in which the student’s semester schedule includes general education and prerequisites or related requirements, in addition to the major. This model assumes full-time commitment to nursing studies and readiness in English and math skills, but reduces the time required for completion of the Associate of Applied Science in Nursing degree.

The inclusive program was actually terminated after the first cohort, largely on account of high attrition in the cohort. For the benefit of continuing students, the program was carried out to normal completion of the first and only cohort. A quasi-experimental study comparing students in the inclusive cohort with a parallel traditional cohort of nursing students was completed.

QUASI-EXPERIMENTAL COMPARISON OF INCLUSIVE AND TRADITIONAL NURSING (NSG) COHORTS ON TAACCCT OUTCOMES 2, 3, AND 4 USING SMALL SAMPLE CHI SQUARE TEST FOR SIGNIFICANCE OF DIFFERENCE IN TWO PROPORTIONS					
Outcome Measure	Inclusive NSG Treatment Cohort		Traditional NSG Control Cohort		Chi Square (significance of difference for two proportions)
	Number	%	Number	%	
TOTAL STUDENTS IN TREATMENT AND COMPARISON COHORTS (FIRST FALL ENROLLMENT FA13)	27		36		Critical Value for Significance (1df): Alpha .05 3.841 Alpha .01 6.635
TOTAL NUMBER COMPLETING A TAACCCT-FUNDED PROGRAM BY MAY 2016. (OUTCOME 2)	12	44.4%	23	63.9%	2.338 Significance level: P = 0.1262
NUMBER RETAINED IN TAACCCT FUNDED PROGRAM OF STUDY AFTER 1 YEAR. (OUTCOME 3)	17	63.0%	24	66.7%	0.092 Significance level: P = 0.7623
TOTAL NUMBER OF PARTICIPANTS COMPLETING CREDIT HOURS. (OUTCOME 4)	19	70.4%	27	75.0%	0.163 Significance level: P = 0.6863

The CCC nursing program has long enjoyed high rates of retention, degree and certificate completion, and success in passing the NCLEX licensing examination. Therefore, the goal was not to improve on deficient success rates, but to at least maintain current levels while providing a different and more efficient pathway to nursing degree completion for students who are prepared and available for full-time study.

Numbers in the treatment and comparison cohorts do not support application of statistical calculations designed to determine impact or causality. The Chi Square test, as modified to treat small sample sizes, provides an indication of the presence or absence of non-random relationship between the performance or experiences of the cohorts. In a comparison focusing on three of the nine TAACCCT program measures, none exhibited a systematic difference at a significant level. However, the inclusive cohort had a noticeably lower program completion rate, with just 44% of students earning the LPN certificate or Associate of Applied Science degree in registered nursing within a three-year period. This was a factor in bringing about a modification from an “inclusive” option integrating general education, moving to a *year-round* option to traditional scheduling.

Conversion from Analog to Digital Imaging in Radiologic Technology

This initiative involved an upgrade in imaging technology vital to practice in radiography. Again, past levels of student performance were good, with minimal losses of students and a high pass rate on licensing exams. The aim was to advance the curriculum to reflect the direction of technology and practice in radiography while at least maintaining these levels of success.

QUASI-EXPERIMENTAL COMPARISON OF RADIOLOGIC TECHNOLOGY COHORTS BEFORE AND AFTER TRANSITION TO DIGITAL IMAGING: TAACCCT OUTCOMES 2, 3, AND 4 USING SMALL SAMPLE CHI SQUARE TEST FOR SIGNIFICANCE OF DIFFERENCE IN TWO PROPORTIONS					
Outcome Measure	2013-2014 RADT Treatment Cohort		2010-2011 RADT Control Cohort		Chi Square (significance of difference for two proportions)
	Number	%	Number	%	
STUDENTS IN TREATMENT AND COMPARISON COHORTS (FIRST FALL ENROLLMENT)	26		25		Critical Value for Significance (1df): Alpha .05 3.841 Alpha .01 6.635
TOTAL NUMBER COMPLETING A TAACCCT-FUNDED PROGRAM IN 150% TIME. (OUTCOME 2)	*11/12	*91.7%	19	76.0%	1.268 Significance level: P = 0.2601
NUMBER RETAINED IN TAACCCT FUNDED PROGRAM AFTER 1 YEAR. (OUTCOME 3)	25	96.2%	19	76.0%	4.312 Significance level: P = 0.0378
TOTAL NUMBER OF PARTICIPANTS COMPLETING CREDIT HOURS. (OUTCOME 4)	26	100.0%	24	96.0%	1.040 Significance level: P = 0.3078

*Treatment measure is based on 2013 cohort only—the only cohort that had time to complete.

A significant (Alpha .05) difference between treatment and comparison cohorts is evident in program retention, where 96.2% of treatment group students reenrolled for the third regular semester, one year after initial program major enrollment, as compared to 76% of pre-TAACCCT students. This finding indicates a non-random difference in the two proportions, but it does not identify any cause of the difference, instead pointing out the difference and inviting stakeholders to consider likely causes.

Conventional wisdom and actual experience indicate that a decline in retention rates in a low-enrollment cohort can simply be the result of two or more unexpected life changes among a small group of students—a spousal transfer in employment, family illness, or other event having little or no relation to student selection, motivation, or performance. The RADT program director acknowledges this, but sees other, identifiable factors at work also, including observed increases in student engagement and learning resulting from TAACCCT activities. The foundation of grant improvements in the program was incorporation of digital imaging technology and technique, but this change, involving lab-based production of images using phantom patient mannequins and radiation monitors, also created opportunities for lab-based simulation activities and experience with radiation safety and other concepts that previously could only be explained. In addition, use of I-pads allowed students immediate access to course materials and data, again increasing live involvement of students as opposed to passive listening or watching. Instructors have seen higher levels of engagement, response, and learning. They believe that actual improvements in learning are reflected in the measured increases in retention (significant difference), as well as earning of course credits and program completion (positive but non-statistically significant difference) in the treatment cohort, consisting of the combined beginning student cohorts of Fall 2013 and Fall 2014, following incorporation of the TAACCCT-funded program improvements. Lower attrition logically leads to increased program completion and employment in TAACCCT-friendly jobs.

Physical Therapist Assistant Program

Delays in start-up of the Physical Therapist Assistant program precluded completion of the full cycle from student intake to graduation of the first cohort, and did not produce sufficient data to support a comparative study. In addition, it is not clear that the Emergency Medical Services program could have produced a comparable control group, since it operates on an open schedule, rather than in the more structured full-time, cohort-based format of the PTA program.

Unlike other special accrediting bodies for Allied Health programs with which CCC has had experience, the accreditation authority for Physical Therapist Assistant education prescribes evidence of prior readiness in virtually all aspects of the program, including student-ready full-program curricula, fully qualified faculty, and fully equipped facilities. This and other aspects of the process make for a lengthy lead-up to admission of the first students. In addition, recruitment of faculty was a challenge in CCC's rural location, where qualified professionals are scarce and in demand, and where they typically have multiple, attractive employment options.

Enrollment, Persistence and Success of Physical Therapist Assistant (PTA) Student Cohort									
Cohort	Fall 2015	Enrolled Spring 2016		Enrolled Fall 2016		“B” or better FA 2015 in at least 1 major course		“B” or better SP 2016 in at least 1 major course	
Term	Cohort	Number	% cohort	Number	% cohort	Number	% cohort	Number	% cohort
Fall 2015	9	9	100%	9	100%	9	100%	9	100%

Source: Clovis Community College PTA Program Statistics

What can be said of the first cohort of PTA students, who started in Fall 2015, is that 9 students were accepted into the beginning cohort. They had to be willing to invest their futures in a program that was on the path to accreditation but that was not yet accredited. These 9 students re-enrolled in the spring, summer, and fall terms of 2016, and they have earned the requisite “B” grades in all of their PTA courses to stay on track for graduation in December 2016. The small number of participants and incomplete data for a cohort still in process preclude the contemplated statistical comparison, but through their experience to date, the cohort has attained 100% success in all outcome criteria that can currently be measured.

V. Conclusions

The TAACCCT program and its purposes are described by the U.S. Department of Labor as follows:

“TAACCCT provides community colleges and other eligible institutions of higher education with funds to expand and improve their ability to deliver education and career training programs that can be completed in two years or less, are suited for workers who are eligible for training under the TAA for Workers program, and prepare program participants for employment in high-wage, high-skill occupations.”

With this statement as a point of reference, and based on analysis of collected data and interviews with key participants/stakeholders, it can safely be concluded that the CCC project fulfilled the stated purpose of the TAACCCT program and improved opportunities for career training and employment in eastern New Mexico and adjacent portions of the Texas Panhandle.

The Clovis project was not without challenges. The newly developed Physical Therapist Assistant program, possibly the signal achievement in terms of increasing career training options and expanding enrollment, program completion, and employment potential, met with numerous delays and obstacles in the effort to recruit qualified faculty members and meet exacting CAPTE accreditation requirements in advance of opening the doors to students. Nursing faculty members explored an alternative configuration of the program to meet specialized needs, but high attrition caused them to finish out a quality nursing program for students in the pilot cohort and transition to a more promising “year-round program” model, which increases capacity and is working well.

The good news is that the challenges were overcome and by September 2016, the project had produced one new allied health career education program in Physical Therapist Assistant; an update of technology and improved performance in Radiologic Technology; and added capacity and a new scheduling option for students in a highly successful nursing program. While outcome

targets in the nine mandated TAACCCT program measures were not reached by the official end of the project in every case, more of the targets will be met as these initiatives mature and current and future cohorts complete the full training and employment cycle.

Clovis Community College Duplicated Headcount Enrollment (Seat Count) in Health Careers						
Term	Fall 2011	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016
Emergency Medical Services	42	27	58	72	96	90
Nursing	332	456	461	412	424	561
Physical Therapist Assistant	0	0	0	0	27	30
Radiologic Technology	132	160	99	100	94	108
Health Careers Total	506	643	618	584	641	789
Change From Baseline		27.1%	22.1%	15.4%	46.4%	55.9%

Source: Clovis Community College Institutional Research

In light of the TAACCCT program's purpose of *expanding grantees' capacity to deliver career education and training for TAA-eligible students*, it is noteworthy that, over the course of the Clovis TAACCCT project, enrollment in health careers, including all programs addressed in the project, increased by some 55.9%. 100% of the increase in Physical Therapist Assistant was attributable to TAACCCT support, and at least a part of the increase in Nursing is likely owed to the creation of an additional and different program configuration offered to potential students.

In Clovis Community College, the Department of Labor was investing in an institution of modest means, serving underserved populations with significant proportions of low-and middle-income residents. CCC has invested its own scarce institutional funds in allied health education, as is evident in first-rate, new or nearly new facilities and equipment that offer a model learning environment for students. The TAACCCT award provided essential resources, without which the observed capacity increases and performance outcomes would not have been possible. Likewise, the Department of Labor's stringent administrative standards and practices for TAACCCT awards pushed the College to overcome barriers and make the best possible use of public funds allocated to improve workforce education.