

Coconino County Community College
TAACCCT Grant Final Report

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Executive Summary

Developed jointly by Coconino Community College (CCC) and Northern Arizona University (NAU), the CCC2NAU program seeks to increase the number of CCC students who complete CCC credentials or degrees and subsequently transfer to NAU to complete baccalaureate degrees. In Fall 2012, Coconino Community College received Round 2 funding from the Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program to build and enhance the CCC2NAU program through marketing, expansion of advising and online services, development of a sustainable infrastructure for data collection across institutions, and conducting a needs analysis to determine the industry sectors that would benefit from new CCC2NAU programs and online offerings.

CCC2NAU Program Features

CCC2NAU offers services and benefits to streamline the transition of students between the community college and the university. Key among these is advising through Pathways that align associate degrees and general education courses at CCC with 67 NAU baccalaureate degrees. Workshops at program entry and in the semester prior to transitioning provide clear information and processes for transitioning. The program offers additional benefits to participants, including (a) dual enrollment, (b) reverse transfer for transitioned students to complete associates degrees at CCC, (c) free NAU ID cards while at CCC, (d) housing on the NAU campus while attending CCC, (e) assistance with registration at NAU, and (f) scholarship opportunities specific to CCC2NAU students.

Historically, the CCC2NAU program has provided services to primarily first-

generation students who tend to be of nontraditional age. Students served by the CCC2NAU program reflect the diversity of the region, with Native Americans representing 16.0% of students and Hispanics representing 17.8%. The program is built upon an understanding that students who transfer from two- to four-year institutions face challenges that may include lack of appropriate advising toward long-term academic goals (Advisory Committee on Student Financial Assistance, 2008). It also builds on the understanding that a culture of transfer must be present in both the community college and the university to foster successful transitioning of students across institutions (Berger & Malaney, 2003; Grites, The College Board, 2011; Mullin, 2012; 2013; Jackson, Starobin, & Laanan, 2013).

Evaluation Design

To understand the effectiveness of program activities related to the targeted priority areas of the TAACCCT grant, CCC contracted with Magnolia Consulting, LLC, a research and evaluation company, to conduct an external evaluation of the CCC TAACCCT project.

Implementation Study Design

The goals of the implementation evaluation were to understand how students and staff perceive the quality and utility of the CCC2NAU program in meeting student needs and to understand successes and challenges to implementing the CCC2NAU program and the TAACCCT grant activities. Implementation evaluation addressed the following questions: (1) What are the numbers and characteristics of students served by CCC2NAU? (2) How were marketing and recruitment efforts enhanced to reach targeted participants for CCC2NAU? (3) How well supported are CCC2NAU students to transition to NAU and complete degrees? (4) How well do

advising services (online, peer, and staff) support students in transitioning to NAU? (5) What is the level of use of online services for information dissemination and degree audit? (6) How did online course offerings expand through TAACCCT funding? (7) How are project activities related to establishing a data collection system implemented? (8) What are the workforce needs of local employers? (9) What were the overall successes and challenges to implementing TAACCCT activities?

The logic model for the five priority areas of the grant informed the implementation evaluation questions and measures. Increased marketing and recruitment efforts would lead to increased awareness of the program, which in turn would influence program enrollment. Expansion of course offerings would increase access to degree planning and completion. Expansion of student services to track degree progress, being informed of academic concerns through the Starfish Early Alert system, and the ability to work with peer advisors for schedule building and registration would increase support for CCC2NAU students between appointments with CCC2NAU advisors. Increased capacity for data collection and reporting across NAU and CCC for CCC2NAU program participants would lead to the ability to better evaluate the program through accurate, data-driven methods. And finally, conducting a needs analysis of local employers would help CCC to design courses and revise programs to better meet the workforce needs of local employers. To measure implementation, evaluators used mixed methods, including surveys and interviews of current and transitioned CCC2NAU students, CCC and NAU administrators and staff interviews, faculty surveys, CCC2NAU and NAU advisor interviews, surveys of local employers, Business Advisory Council interviews, document review, documentation of staffing changes, and tracking of metrics for

online services. These measures informed an understanding of how TAACCCT funding helped to build capacity of the college to increase interest in the program and serve a growing population of students.

Outcome Study Design

The Outcome Study examined how TAACCCT activities supported the expansion of the program to serve students. It also examined the effectiveness of CCC2NAU to (a) recruit and retain students at CCC, foster academic success and transition them to NAU and (b) support retention, academic success, and graduation at NAU. Outcome evaluation also addressed the TAACCCT outcomes measured over the course of the funding period. Four research questions guided the outcome evaluation: (1) Did enrollment increase over the course of the project? (2) Did the capacity to serve more student increase? (3) In its efforts to serve students, how well did CCC2NAU meet its intended programmatic outcomes related to retention and transition? What are the outcomes for transitioned students at NAU? (4) How well did CCC perform with respect to TAACCCT outcomes for participation over the course of the study?

To measure outcomes related to the effectiveness of the CCC2NAU program, evaluators used propensity score matching to create comparison groups for two outcome studies. Evaluators included variables in matching that are identified to have an impact on transfer from community college to university. Outcome Study 1 examined the Fall 2012 CCC2NAU cohort and a matched comparison group of CCC students and followed students for eight semesters through the Spring 2016 semester. Evaluators used deidentified CCC institutional data to examine student retention, transition, and academic success while in the program. Outcome Study 2 examined the Fall 2014 cohort of CCC2NAU students who had transitioned to NAU and

a matched comparison group of NAU students who had transitioned from community college but not been part of a 2NAU program at another community college. Evaluators used deidentified NAU institutional data to track Fall 2014 NAU participants through Spring 2016 and examined retention, graduation, and academic success at the university.

Outcome analyses descriptively examined program enrollment, including that of targeted distance and veteran students as well as metrics related to degree and certificate attainment for all TAACCCT participants. Through the two quasi-experimental studies involving propensity score matching of CCC2NAU participants with nonparticipants, the studies provide more evidence regarding program impacts on participants than treatment-only, descriptive analyses. However, even though the quasi-experimental component of the study included propensity score matching techniques to create comparable groups, the study does not permit causal inferences because study participants were not randomly assigned to treatment and control groups. Among comparison students at CCC, the possibility that propensity score matching did not account for all potential factors associated with self-selection into the program and relatively small sample sizes influenced the ability to make causal inferences of program impacts.

Implementation Findings

Current and former CCC2NAU participants value the program highly. Especially valued are the targeted advising that ensures that courses will transfer using the Pathways created for the program and the fact that advisors are trained in degree plans and program progressions for both CCC and NAU. Students particularly value automated transfer of credits between CCC and NAU; customized CCC degree plans

that match NAU major requirements; advising from staff trained in both CCC and NAU degree planning; the ability to register early for NAU classes for the transition semester; and help with admissions, registration, and the transition to NAU. Transition workshops provide clear guidelines and timelines for application and registration at NAU. NAU advisors who receive transitioned students indicate that CCC2NAU students are well-prepared for their initial advising appointments, understand the requirements of their degree plans, and are familiar with NAU services and processes.

From its inception, CCC2NAU involves a distinctively high level of collaboration between the community college and the university that has been essential to its ongoing success and growth. Collaborative efforts include sharing of regular meetings of the CCC2NAU Coordinating Council with representatives from CCC and NAU to discuss the effectiveness of program features, areas of strength, and areas of growth for the program. CCC2NAU advisors include NAU employees embedded on the community college campus as well as employees of CCC, representing a unique collaboration to promote consistency in advising and a greater understanding of the unique cross-institutional needs of students who intend to continue their education at the university. Clear communications between advisors at both institutions ensure that certificate and degree plans at the community college will seamlessly transfer to the university and be applied toward baccalaureate degree completion. The institutions also collaborate through sharing student data and information on individual students preparing to transition and through providing the opportunity for students who transition to also complete their associate degree through reverse transfer after enrollment at NAU.

Building Institutional Capacity Through TAACCCT Funding

CCC's TAACCCT award provided funding for over 40 activities including increased staffing, peer advising, recruitment and marketing activities and events, online service expansion, and equipment and supplies to enhance courses. Through TAACCCT funding, CCC implemented new strategies for recruiting participants into the program including building its online presence through search engine marketing techniques. Recruitment events reached over 1,000 potential participants, and CCC will continue to use marketing materials funded through TAACCCT for its CCC2NAU outreach events.

Through TAACCCT funding, CCC built its capacity to serve all students, including those in CCC2NAU through expansion of online services. CCC was able to substantially modify and upgrade Degree Works, a web-based degree audit and tracking system. Use of Degree Works continues to grow and supports advising by allowing students to check their degree progress and academic standing at any point in time. From the start of use in January 2014 through June 2016, over 8,200 students including TAACCCT participants have accessed Degree Works to check on degree progress and academic standing. Survey findings indicate that students are using the program to confirm successfully completed courses toward their degree, determine needed course work, and check their academic standing. Over the course of funding, CCC has held informational sessions for students on the use of Degree Works, and it has become part of the services shared with students at peer-advising sessions.

Through TAACCCT funding, CCC purchased the Starfish Early Alert system, which allows advisors and faculty to send

alerts to students regarding their academic progress in a course. Advisors can follow up with students when alerts are given by faculty to provide further support and encouragement. CCC2NAU staff is utilizing Starfish to reach out to students with academic concern flags on a weekly basis. Peer advisors, funded through the TAACCCT program, are presenting information to students about Starfish during advising appointments. Piloted with a small number of instructors in Summer 2015, use of Starfish continues to grow. The service benefits all CCC students, including CCC2NAU, thus building institutional capacity to support student progress and in turn potentially impact retention and transition.

TAACCCT funding supported a needs analysis of business leaders in Northern Arizona. Through review of survey findings, meeting minutes from Business Advisory Council meetings, and interviews with Business Advisory Council leads at CCC, it is clear that regional employers take an active role in advising the college on their workforce needs. Through Business Advisory Council meetings and throughout the year, business leaders provide input on new innovations in their fields, provide input on courses and curricula, and advise the college on specific skills needed in the workplace. CCC used information from the needs assessment to inform revisions and creation of online course offerings and to provide information to CCC instructors on the skills required by local employers for successful employment.

Several strategies implemented through the grant will be sustained beyond the scope of funding. These include increased staffing of advisors, peer advising, the online services for students including online CCC2NAU Info Sessions, Degree Works, and Starfish. The college will continue to fund search engine marketing and the online student and staff portal system acquired through TAACCCT funds.

Outcome Study 1 Findings

For students in the first Outcome Study while at CCC, comparing CCC2NAU students to the matched comparison group, the proportion of students transitioning to the university across the four years of the study was significantly higher for those in the CCC2NAU program (47.39% transitioning) than for comparison students (20.00% transitioning) ($z = 5.944$; $p = .002$). Results of logistic regression indicated that participation in CCC2NAU was a statistically significant predictor of whether or not a student transitioned to a four-year institution, even when other variables that are often associated with transition rates were included in the model. When controlling for the other variables in the model, students who participated in CCC2NAU were 3.54 times more likely than nonparticipants to transition to a four-year institution. Within the CCC2NAU study participants only, statistically significant predictors of transferring when controlling for other variables in the model included cumulative GPA ($p = .003$), Pell grant eligibility ($p = .02$), and ethnicity, with white students being more likely to transition ($p = .045$).

In addition to transition rates, evaluators examined first-year fall-to-fall retention rates for students who did not transition. From Fall 2012 to Fall 2013, 62.57% of the CCC2NAU participants (107 of the 171) and 47.31% of the comparison participants (88 of the 186) who did not transition or earn a two-year degree were retained at CCC. A z-test for independent proportions indicated that the proportion of CCC2NAU students retained after one year was statistically significantly higher than the proportion of comparison students retained ($z = 2.893$; $p = .002$).

Students in the CCC2NAU program earned associate degrees at a higher rate than comparison students at CCC ($z =$

1.905 ; $p = .03$). Program participants also earned AGEC certificates (general education credits for transfer) at a higher rate than comparison students ($z = 3.478$; $p < .001$). When controlling for courses completed and whether or not a student needed remedial coursework, there were no statistically significant differences in academic success between CCC2NAU participants ($M = 0.77$, $SD = 0.306$) and nonparticipants ($M = 0.81$; $SD = 0.267$) ($F(1, 214) = 0.062$; $p = .804$). Findings regarding transitioning should be interpreted with caution, as it was not possible to ascertain whether students in the comparison group intended to transition. However, the comparison group does represent a matched group of students who would meet eligibility requirements for program participation and are representative of the typical CCC student.

Outcome Study 2 Findings

For students in the second Outcome Study involving enrollment at NAU after transitioning from the community college, there was no difference in baccalaureate degree attainment between former CCC2NAU students and comparison students. First-year retention rates of CCC2NAU students were significantly higher than those of comparison students ($z = 1.820$; $p = .03$). Readers should interpret these findings with caution due to small samples sizes. There were no differences between groups in academic achievement as measured by cumulative grade point averages.

TAACCCT Outcomes

Across Years 1–3, 1,091 CCC2NAU students were TAACCCT participants. Year 4 included an additional 411 students. Across Years 1-4 of TAACCCT funding, the program served 758 (50.5%) males and 744 (49.5%) females. The majority of TAACCCT participants (56.6%) were White. Native

American students constituted 14.0% of students, while Hispanic/Latino students comprised 19.1% of the population indicating that the program serves a diverse population of students in transitioning to complete four-year degrees. TAACCCT participants across the four years included 102 veterans (6.8% of participants). Across the years, most students attended full time (70.2%). Of the CCC2NAU TAACCCT participants, 47.9% across four years were Pell grant eligible.

Of the participants in Years 1–3, 378 (34.6%) completed a program of study, indicating transition to a four-year institution. Of the TAACCCT participants, 178 (16.3%) earned credentials (Associate degree, AGECE certificate or other certificate).

Conclusions

The CCC2NAU program serves as an entry point to higher education for students in Northern Arizona who may be unable to go directly to the university due to factors such as the higher costs of university education, lack of academic preparation in high school, or need for flexibility in scheduling for working students. Results of the implementation and outcome evaluation studies indicate that the CCC2NAU program is functioning effectively in supporting community college students to transition to the university and with respect to student retention at both institutions. Institutions seeking to implement transition programs could consider the following:

- To successfully implement transition programs, community colleges and universities must jointly take an active role to create a “transfer culture” at both institutions.
- Clearly articulated degree pathways provide a roadmap for community college students with the intent of

transitioning to a specific four-year institution. However, maintaining current degree pathways requires resources for staff time and communication between institutions.

- Embedding university-employed advisors within the community college supports clear communication and positive collaboration between institutions and allows for ongoing monitoring of program activities and progress.
- While resource intensive, timely, high-touch advising providing students with just-in-time information on university admissions, applications, financial aid, registration and support services at the university promotes ease of transition.
- Student services such as online degree tracking, early alert programs, and peer advising show promise in supporting students in between appointments with advisors.

Future research involving a larger sample of participant cohorts would serve to strengthen findings from this study. Additionally, further research involving a matched comparison group at the community college with intent to transition (not measured by CCC at the time of this study) would strengthen the ability to make causal inferences as to the impacts of the CCC2NAU program by eliminating possible confounding variables. And finally, the ability to interview comparison students at the university to understand their transition experience, including successes and challenges, would provide another line of evidence to examine the effectiveness of a transition support program.

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Introduction

The CCC2NAU program arose out of an overarching need across the state of Arizona and nationwide to increase the number of baccalaureate degrees conferred by universities. The presidents of Coconino Community College (CCC) and Northern Arizona University (NAU) saw the community college as a clear pipeline to move students into the university system while meeting their needs for lower division course work and associate degree attainment at the community college. CCC2NAU is named to depict the transitioning of students from CCC to (2) NAU.

TAACCCT Round 2 Funding

In October 2012, CCC received a four-year grant from the U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) program. The intent of the grant was to expand CCC's efforts to support students in transitioning to Northern Arizona University (NAU) through the CCC2NAU program. It should be noted that while CCC was awarded TAACCCT funding, the CCC2NAU program is not a workforce development program and does not have near-term participant employment as its intended outcome. The program specifically seeks to support community college students in transitioning from the community college to the university to complete baccalaureate degree programs and thus supports their acquisition of gainful employment through higher education, which is an intended long-term outcome of participation.

The intent of CCC's TAACCCT grant was to expand recruitment, retention, and sustainability efforts for the program. Through TAACCCT funding, CCC aimed to (a) increase interest in its CCC2NAU student transition program, (b) expand the capacity of the program to serve more students, (c) increase the reach of the program through online services, (d) develop an assessment infrastructure, and (e) conduct a needs analysis of local employers to inform expansion of online program offerings.

CCC contracted with Magnolia Consulting, LLC, an external research and evaluation company, to conduct an external evaluation of the TAACCCT grant activities and of the CCC2NAU program, which had not been previously evaluated. Magnolia evaluators provided interim reports in fall of 2014 and 2015 (Magnolia Consulting, 2014; 2015) to provide formative feedback to guide programmatic improvements. This report includes implementation and outcome findings for the four-year study. The report begins with a description of the CCC2NAU program, followed by the evaluation design, findings, and discussion.

CCC2NAU Program Description

The goals of the CCC2NAU program are to increase the number of CCC students (a) qualifying for admittance to NAU, (b) completing a CCC credential, (c) transitioning to NAU as well as (d) to increase the number of transitioned students completing degrees (Bornstein et al., 2012). The program allows students to take advantage of lower tuition and smaller class sizes at the community college before transitioning to the larger university environment. CCC2NAU is open to students who have not previously enrolled at NAU nor earned a bachelor's degree. Students must complete at least one semester at CCC prior to transitioning to NAU. The program's history and key features are described in the following sections of the report.

Program History

In Spring 2008, the presidents of CCC and NAU created a joint task force to examine ways in which the institutions might work together to remove barriers to transitioning students from CCC to NAU. The timing was right, as the Intergovernmental Agreement between CCC and NAU was due for renewal, thus creating an opportunity to craft a new agreement incorporating the policies, processes, and procedures necessary for establishing the CCC2NAU program. Administrators sought to create a program that highlighted the difference between "transfer" and "transition" programs—while transfer is solely concerned with moving course credits from one place to another, transition intends to support students at both institutions as they move from one environment to the other. The geographic proximity of the community college to the university (campuses are less than a mile apart) lent itself well to jointly designing and implementing a program across two campuses.

Very quickly after agreeing to establish the program, staff at NAU and CCC worked to develop the program structure. NAU staff examined processes for advising, developed a program website, developed admission criteria and a program application, and began recruiting students. Initial recruitment efforts involved advertising the program at CCC and individually calling students who might be a good fit for the program. NAU staff began looking at degree articulation to determine the courses within baccalaureate degrees that could be taken at the community college. Subsequently, the first CCC2NAU cohort began in the Fall semester of 2008, only a few months after the institutions began to explore the idea for the program. From an initial Fall 2008 cohort of 15 students, the program has grown to admitting more than 500 students in the Fall 2016 semester (personal communication, Northern Arizona University's Planning and Institutional Research office).

Advising

CCC2NAU advising staff represents a cooperative effort between CCC and NAU. Advising staff includes employees of NAU embedded on the CCC campus and employees of CCC, thus representing a unique pairing of university and community college staff toward a common programmatic goal (i.e., moving students from the community college to the nearby university). Advising staff has access to NAU and CCC data systems for students who are dual enrolled and transitioning to the university campus.

The CCC2NAU program manager and advising staff have worked to develop Pathways, degree plans that align associate degrees and general education courses at CCC with 67 NAU baccalaureate degrees thus ensuring that courses taken at the community college will transfer to chosen degree programs at the university. Pathways are continuously updated as changes in degree requirements and coursework are made in baccalaureate programs at NAU. CCC2NAU advisors have an in-depth understanding of degree requirements at NAU as well as working relationships with NAU advisors, enabling them to work with transitioning students to develop customized degree plans that coordinate with baccalaureate degrees offered online and at the NAU campus.

In addition to individual student advising appointments, CCC2NAU advisors conduct group workshops to provide information to participants upon entry into the CCC2NAU program (CCC2NAU Info Session) and in the semester before transitioning to NAU (Transition Workshop). The Info Session outlines participation requirements and program features, and the Transition Workshop provides an overview of processes, deadlines, and services available at NAU for transfer students as well as help them to identify sources of support at the university. After the Transition Workshop, students are required to attend an individual appointment with a CCC2NAU advisor to ensure that coursework, applications, and paperwork are in place for the transition. CCC2NAU advisors work closely with the NAU registrar, admissions, and financial aid offices as students move from CCC to NAU.

Dual Enrollment

CCC2NAU participants have the opportunity to enroll in courses at both the community college and the university in a given semester. This option allows students to attend classes in their majors at NAU that are either not offered at CCC or not offered during the semester the student needs the course.

Reverse Transfer

Associate degree completion is an important outcome for community colleges. CCC and NAU have an agreement in place that allows students who have transitioned to NAU to have course credits earned at the university transfer back to the community college, thus allowing them to complete the requirements for an associate degree through CCC while working toward a baccalaureate degree at NAU.

Additional Program Benefits

CCC2NAU students receive other program benefits while attending CCC:

- an NAU ID card (JacksCard, named after the school's Lumberjacks nickname) that provides CCC2NAU students with access to NAU athletic events, performances, clubs, and organizations
- the option of living in NAU campus housing while attending CCC
- the option to join the university's Health and Learning Center, offering fitness, recreation, and health services
- a waived application fee to NAU at the time of transition

- scholarship opportunities specific to CCC2NAU students.

Population Served

CCC is a small community college based in Flagstaff, Arizona in close geographical proximity to Northern Arizona University, one of Arizona's four-year public universities. CCC provides more than 60 certificate programs and two-year degrees in various fields, including business, health care, sciences, administration of justice, social sciences, and computer science, among others. Established in 1991, CCC has served the residents of Coconino County for 25 years through varied degree offerings and workforce training programs.

CCC serves more than 3,500 full- and part-time students per year with two campuses in Flagstaff, Arizona (National Center for Education Statistics, nces.gov). Since its inception in 2008, the CCC2NAU program has served more than 2,600 students primarily from Coconino County, Arizona. Coconino County is the second largest county in the United States with a largely rural population base. Census data from the 2010 U.S. Census show that the county is primarily white (66.4% of residents) but has high numbers of Hispanic/Latino residents (13.9%) and Native American residents (27.0%) (<http://www.census.gov/quickfacts/table/PST045215/04005>).

Over the years, the CCC2NAU program has provided services to primarily first-generation students (65.9% of students across all years) who tend to be older ($M = 27$ years). Students served by the CCC2NAU program reflect the diversity of the county. Since 2008, the program has served a majority white population (58.4%), with Native Americans representing 16.0% of students and Hispanics representing 17.8% of participants. Appendix A presents NAU PAIR program demographics by academic year from Fall 2008 through Fall 2015.¹

Coconino Community College TAACCCT Project Description

In Fall 2012, Coconino Community College received funding from the Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program, which funds higher education programs that expand and deliver education and career training programs. The TAACCCT program, initially funded under the 2010 Health Care and Education Reconciliation Act, targets workers who are eligible for career training and who can complete this training in two years or less. The TAA for Workers program is intended to benefit workers who have been affected by international trade. As previously noted, CCC2NAU is not a program designed specifically for TAA-eligible individuals and does not have employment as its intended outcome and therefore is dissimilar from other TAACCCT awardee programs. The Department of Labor awarded the TAACCCT grant to CCC to build and enhance the CCC2NAU program. For the grant, CCC developed a statement of work that focuses on five priorities including (a) increasing interest in CCC2NAU, (b) expanding the capacity to serve more students, (c) increasing reach through online services and course delivery, (d) developing a sustainable data collection system, and (e) conducting a needs assessment of local employers to further

¹ It should be noted that NAU PAIR CCC2NAU counts vary from CCC's DOL TAACCCT annual report data due to differences in participant eligibility criteria.

understand workforce needs. A brief description of each priority area is presented in Appendix B.

Theory of Change for TAACCCT Grant Activities

Magnolia evaluators worked with CCC’s TAACCCT grant committee to develop a logic model to articulate the TAACCCT activities and their link to intended outcomes to inform data collection efforts. The logic model for CCC’s TAACCCT grant activities is presented in Appendix C.

Theory of Change for the CCC2NAU Program

Evaluators created a logic model specific to the theory of change for the CCC2NAU program, which is the primary focus of evaluation activities for the project. This logic model is based on CCC2NAU program services and benefits and their proposed link to the outcome of transitioning to NAU (Figure 1). Targeted advising that aligns CCC degrees and certificates with NAU degree programs, reverse transfer for associate degree or AGEC completion, and the opportunity to dual enroll in classes at CCC and NAU serve to foster academic integration into the university. The ability to live on the NAU campus while at CCC, attend NAU events, and take courses at both institutions provides ways to integrate socially into university life. Scholarships specifically for program participants help with the financial transition to the university.

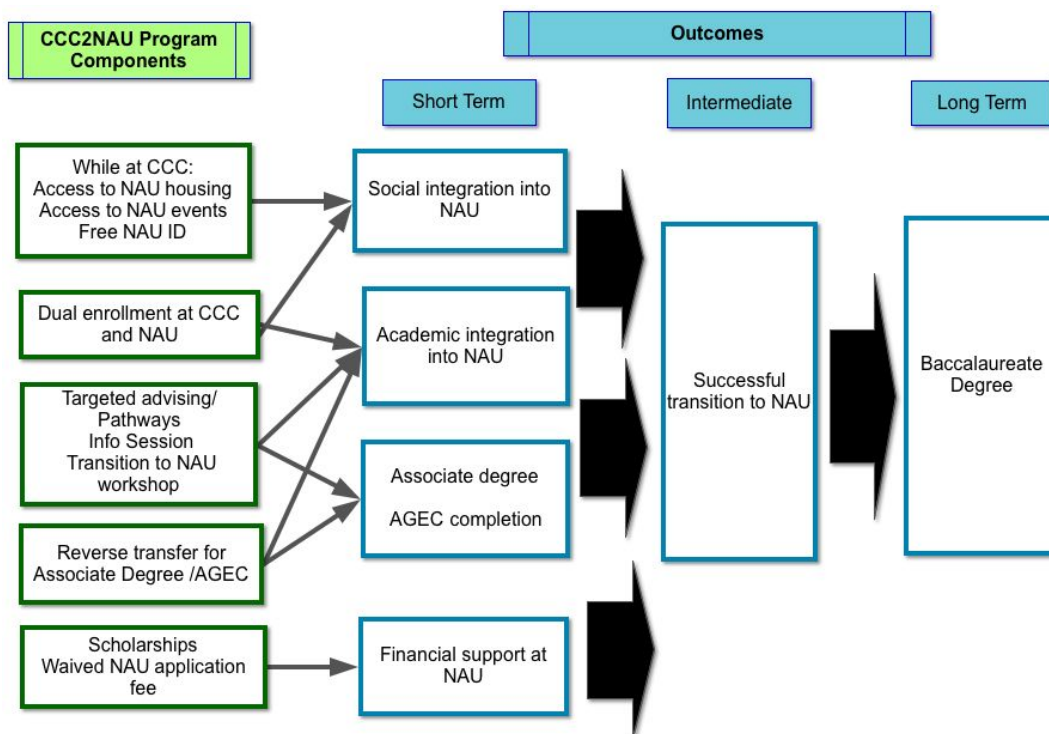


Figure 1. CCC2NAU program theory of change.

Students who wish to transfer from two- to four-year institutions face potential barriers. These may include inadequate transfer policies and practices, insufficient academic preparation,

and lack of appropriate academic advising and communication with advisors at the community college with respect to long-term academic goals (Advisory Committee on Student Financial Assistance, 2008). Adopting a “culture of transfer” at two- and four-year institutions that fosters support for the transition process is essential to successfully moving students toward baccalaureate degree attainment (The College Board, 2011).

CCC2NAU is based on best practices in supporting community college students in transitioning to a four-year institution. These include targeted advising, creating strong partnerships between community colleges and universities to which students transfer, and providing a means for students to integrate socially into the university environment.

Intensive, Targeted Advising

The centerpiece of the CCC2NAU program is targeted advising, including one-on-one advising appointments for degree planning using Pathways that articulate coursework at CCC with degrees at NAU, and group information sessions at the start of the program and before transitioning to NAU. With their access to information, direct contact with students, and experience, advisors are key to helping prepare students for the complex transition to a four-year university. Pretransfer advising assists students with a less frustrating and timelier graduation because it has the potential to generally guide students through a complicated process including helping students determine transferable courses, selecting a major, and distributing transfer information (Flaga, 2006). Intensive advising has been shown to impact retention rates at the four-year university level, and improved advising can help address several of the issues facing transfer students, such as balancing academic and personal priorities (Jefferson et al (2014). Additionally, students who are best informed and who have most actively prepared for transfer are most likely to achieve higher grades and be more satisfied in the university environment” (Berger & Malaney, 2003; p. 1).

Transfer Partnership

Community colleges and the transfer university are equally responsible for developing a clear pathway to ease and assist transfer students from one institution to the other (Berger & Malaney, 2003; Grites, 2013; Jackson, Starobin, & Laanan, 2013; Mullin, 2012). Moreover, the colleges cannot work in isolation. Collaborative efforts and strong relationships developed between the partner institutions (Flaga, 2006; Poisel & Stinard, 2005) where colleges jointly develop transfer practices (Kisker, 2007) and address all areas influencing the transfer process make for successful transition outcomes. Additionally, the actions of the two institutions “must be purposeful to foster student success” (Mullin, 2012, p.6), and transition programs require full support and commitment from institutional leaders (Lieberman & Hungar, 1998). The partnership between CCC and NAU includes data sharing, degree integration, communication regarding students in transition, and space for embedded NAU advisors on the CCC campus.

Social Integration

Not only is college an academic endeavor, it also provides social experiences, which are a significant element of campus life. For transfer students specifically, “it is important that students interact with peers outside of the classroom environment in order to develop or solidify quality relationships, which will provide them with informal learning resources, help

them with connecting, and move them towards familiarity” (Flaga, 2006, p.15). For colleges attempting to improve transfer, it is in their best interest and that of their students to find ways to involve transfer students in campus life at the university. CCC2NAU does this through providing students with opportunities to live on the NAU campus while at CCC, attend events and enroll in classes at the university while enrolled at CCC.

Evaluation Design

This section of the report describes the methodological approach, measures, settings, participants, and data collection time frame.

Methodological Approach

The purpose of the implementation evaluation study was to understand (a) how CCC TAACCCT activities were implemented, including successes and challenges to implementation and (b) to formatively evaluate the CCC2NAU program to understand how it was functioning toward meeting its goals of transitioning students to NAU. Implementation also examined how the TAACCCT funding built capacity at CCC to serve students in the CCC2NAU program and also for nonparticipating students at CCC.

The primary focus of the outcome evaluation was on examining impacts of participation in the CCC2AU program, which was enhanced through TAACCCT funding. The study design included two different outcome studies as evaluators had to work with two different intuitional data sets, institutional data from CCC for current CCC2NAU students, and institutional data from NAU for transitioned students.

The first study tracked CCC TAACCCT participants to examine outcomes related to retention, degree and certificate attainment, transition to NAU, and academic success. To ensure that the study remained feasible in scope and size, evaluators chose one cohort of CCC students that corresponded to the start of the TAACCCT grant (Fall 2012 semester) and followed them along with a matched comparison group through all four years of the TAACCCT grant period. Thus they constituted a sample of all TAACCCT participants and a comparison group with a CCC start date of Fall 2012.

Outcome Study 2 examined former CCC2NAU students and a matched comparison group who transitioned to NAU in Fall 2014, midway through the grant period. The study included 21 students from the Fall 2012 cohort of CCC2NAU and also included students from other CCC2NAU cohorts for a more robust sample size. Evaluators tracked students while they were at NAU to examine outcomes related to retention, academic success, and graduation from NAU. Figure 2 shows the design for the evaluation study.

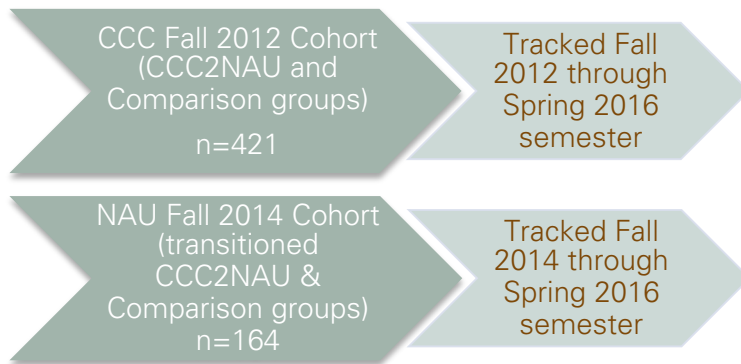


Figure 2. Outcome studies for evaluating CCC2NAU program implementation and outcomes.

The TAACCCT grant requires that evaluators use the most rigorous design possible to understand program implementation and outcomes. Randomized controlled trials (RCTs) are often considered the “gold standard” for evaluating programs. The main factor that distinguishes RCTs from other rigorous designs is that RCTs require random assignment of participants to conditions (Shadish, Cook, & Campbell, 2002), which is not always feasible or appropriate (because of ethical reasons or because of other factors, such as selection processes, that preclude random assignment to conditions). For this study, an RCT design was not possible because participants self-select into either participating or not participating in the CCC2NAU program. Therefore, to understand impacts of the program on participating students, evaluators used a quasi-experimental, mixed-methods design with closely matched comparison groups of nonparticipating students at CCC and NAU. A mixed-methods design involving quantitative and qualitative data collection provides a more comprehensive understanding of program implementation and outcomes than can be obtained through either method alone (Creswell & Plano Clark, 2007).

When random assignment to study condition is not possible, propensity score matching provides a statistical method for balancing two nonequivalent groups on observed covariates, thus providing a more accurate understanding of the effect of a treatment (Luellen, Shadish, & Clark, 2005) (in this case, participation in CCC2NAU). Therefore, evaluators used propensity score matching to create matched sets of CCC2NAU and comparison groups (Rosenbaum & Rubin, 1983a, 1985). Evaluators chose covariates for the matching process based on variables that were hypothesized to be most predictive of self-selection into the treatment or comparison group (based on CCC2NAU participation) as well as variables with available data. A description of study procedures including propensity score matching, a study timeline, and data analysis procedure are presented in Appendix D.

Implementation Evaluation Study

For this study, evaluators conducted formative (implementation) and summative (outcome) evaluation of the CCC2NAU program. Evaluators also examined the five priority areas of the TAACCCT award described in the previous section of the report. This section of the report presents implementation study purposes, evaluation questions, measures, and findings. It concludes with a summary of implementation successes and challenges.

Implementation Study Purposes

Formative evaluation informed the development, implementation, and modification of CCC2NAU program activities funded by the TAACCCT grant. The aims of formative evaluation were to (a) understand how students and staff perceive the quality and utility of the CCC2NAU program in meeting student needs, (b) assess how well the program is supporting student retention and transition, (c) highlight how improvements might better meet the needs of program participants, and (d) understand successes and challenges to implementing the CCC2NAU program and the associated TAACCCT grant activities.

Implementation Study Evaluation Questions

To understand how the CCC2NAU program and the CCC TAACCCT priority activities were implemented, what the success and challenges to implementation were, and how programmatic activities might be modified to better support program goals, evaluators addressed the following evaluation questions related to the five CCC TAACCCT grant priorities.

Priority 1: Increase the number of CCC2NAU participants.

1. What are the numbers and characteristics of students served by CCC2NAU?
2. How were marketing and recruitment efforts enhanced to reach targeted participants for CCC2NAU?

Priority 2: Expand the capacity of CCC2NAU to serve more students.

3. How well supported are CCC2NAU students to transition to NAU and complete degrees? What CCC2NAU services contribute to successful degree completion?
4. How well do advising services (online, peer, and staff) support students in transitioning to NAU? What are challenges to implementing CCC2NAU?

Priority 3: Expand online service and course delivery.

5. What is the level of use of online services for information dissemination and degree audit?
6. How did online course offerings expand through TAACCCT funding?

Priority 4: Develop a sustainable infrastructure for data collection and assessment.

7. How are project activities related to establishing data collection, analysis, and a reporting system implemented?

Priority 5: Conduct a needs analysis regarding industry sectors to determine appropriate focus for online programs and new certificates.

8. What are the workforce needs and employee skills of local manufacturing employers? How does CCC respond to employer workforce need?
9. Overall, what were successes and challenges to implementing TAACCCT activities? How did TAACCCT funds build capacity at CCC to better serve students?

Implementation Study Measures

Evaluators used multiple measures to gauge how the CCC2NAU program was implemented during the funding time frame and to understand how TAACCCT grant funding built institutional capacity. These measures included surveys and interviews of current CCC2NAU students entering the program from Fall 2012 through the end of TAACCCT funding as well as interviews with CCC and NAU administrators and staff, CCC2NAU advisors, NAU advisors, and former CCC2NAU students who transitioned to NAU. To understand employer workforce needs and how CCC incorporated employer needs into course and program delivery, evaluators conducted a survey of local businesses involved with CCC's Business Advisory Councils, reviewed Business Advisory Council meeting minutes over the course of the study, and interviewed CCC Business Advisory Council lead faculty.

To understand how TAACCCT funding built capacity to better serve CCC2NAU and nonparticipating CCC students, evaluators reviewed TAACCCT activities against the proposed statement of work; examined TAACCCT outcome data; tracked metrics related to online services; and conducted interviews and surveys of administrators, advisors, and CCC faculty. Evaluators also reviewed all TAACCCT grant meeting minutes and implementation reports. Through triangulation of data sources and methods, evaluators could test for consistency in evaluation findings to support claims from the data (Patton, 2002). A description of implementation study measures is located in Appendix E.

Implementation Study Participants

Participants in the implementation study included current CCC2NAU students who had joined the program in Fall 2012 or later to include the time frame of the TAACCCT funding. Evaluators surveyed and interviewed current CCC2NAU students to understand how well the program was meeting their needs, how the program could be improved, and their perceptions of the varied program components. Participants in the implementation study also included CCC and NAU administrators, CCC2NAU academic advisors, NAU academic advisors, and CCC TAACCCT team members. Numbers of participants for each formative measure are included in the measures section of Appendix E.

Implementation Study Findings

This section of the report addresses evaluation questions related to implementing the CCC2NAU program and related TAACCCT activities during the period of TAACCCT grant funding including

- characteristics of participants served;

- quality, strengths, and challenges with respect to CCC2NAU services in support of transition;
- use of online services for information dissemination and degree tracking;
- data collection support; and
- employer workforce needs.

Question 1: What are the numbers and characteristics of students served by CCC2NAU?

NAU PAIR Demographics

To understand students served by the CCC2NAU program, evaluators examined data from the NAU Planning and Institutional Research Office (PAIR) and CCC’s Office of Institutional Research, both of which track data for CCC2NAU. NAU PAIR provided data across all years of the program since its inception in Fall 2008 (Appendix A).² Historically, the CCC2NAU program has provided services to primarily first-generation students who tend to be of nontraditional age. Students served by the CCC2NAU program reflect the diversity of the region, with Native Americans representing 16.0% of students and Hispanics representing 17.8%. CCC’s Office of Institutional Research provided demographics specific to CCC2NAU TAACCCT participants from Fall 2012 through Spring 2016 Semesters. TAACCCT participant demographics are presented in the outcomes section of the report.

Question 2: How were marketing and recruitment efforts enhanced through TAACCCT funding to reach targeted participants for CCC2NAU?

To understand how marketing and recruitment efforts were enhanced to increase student awareness (TAACCCT grant Priority 1, Appendix B), evaluators tracked marketing and recruiting efforts across the time frame of the grant.

Marketing and Recruitment Efforts Reach Prospective Participants

CCC2NAU staff began tracking recruitment efforts in Spring 2014. CCC2NAU staff regularly holds recruitment events. Additionally, CCC recruitment events feature the CCC2NAU program. Recruitment events include outreach at local public and public charter high schools, tours of CCC by regional high school students, and presentation of the program to new CCC students. Between March 2014 and September 2015, recruitment events reached more than 1000 potential participants. Additionally, CCC2NAU had information booths or tables at a variety of events, including resource fairs, CCC Job Fair, Flagstaff High School College Night, a regional college fair, Northland Preparatory Academy information session, and a CCC Student Services



Recruitment events reached over 1000 students

² NAU PAIR counts vary from CCC’s DOL TAACCCT Annual Report data due to differences in participant eligibility criteria.

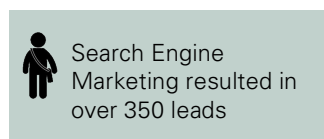
Open House event. Booth or table events reached more than 1,100 attendees.³ Appendix F presents recruitment events updated since the last interim report.

TAACCCT funding supported recruitment events through funding for marketing brochures, pocket folders, CCC2NAU USB flash drives, and postcards to veterans. Table F-2 in Appendix F presents marketing efforts funded through TAACCCT.

G/O Digital Search Engine Marketing Provides a New Means of Marketing CCC2NAU

With funding from the TAACCCT grant, CCC purchased G/O Digital, a Search Engine Marketing Campaign, through Gannett Media. Search engine marketing (SEM) is a form of Internet marketing that promotes websites by increasing their visibility in search engine results pages (SERPs), primarily through paid advertising. Results are measured by impressions, clicks, leads, and click-through rates (CTR). An impression means that a page with the name “Coconino Community College” on it has appeared in front of a potential student in a place where they are likely to go for information about seeking higher education. A click is when the student actually clicks on CCC’s name—taking them to a landing page where they read TAACCCT grant-approved information on CCC2NAU. A lead is when the viewer uses the information provided on the landing page to contact CCC.

The SEM Campaign went live on July 9, 2015. The Campaign focused on two main search engines, Google and Bing/Yahoo. Between July 9, 2015 and June 30, 2016 the Campaign recorded 372,288 impressions and 4,965 clicks across all search engines. This resulted in 377 leads for the two search engines combined. SEM metrics are presented in Table F-3 in Appendix F.



Through TAACCCT funding, CCC hired an enrollment management specialist to follow up on leads generated through the SEM Campaign. As potential students reach the landing page, they provide email addresses or phone numbers to receive further information. They can also ask specific questions about CCC and CCC2NAU on that page. The enrollment manager contacts leads, responds to questions, and directs potential students to program advisors.

CCC marketing staff notes that the SEM Campaign allows the college to increase awareness of CCC2NAU via the Internet, which is commonly used by students to access information. The service allows staff not only to track the metrics presented above but also to report viewers email and phone messages if they click through to provide a lead to recruiters. The program also provides a means to monitor responses from the enrollment management specialist to ensure provision of timely and accurate responses to potential students.

In its early stages of use, staff also noted challenges to using the SEM Campaign approach, including substantial costs for the service, difficulty in following through to make the direct link between the SEM Campaign and actual enrollment, and the possibility of abandoning traditional media approaches in favor of a new online approach. Traditional marketing methods are still a viable method of reaching and recruiting participants for the rural populations served by CCC2NAU. When combined with other forms of marketing, CCC staff feels the use of the SEM Campaign has the potential to extend recruitment through an online presence.

³ Numbers of attendees reached would potentially have been much higher had data been captured prior to Spring 2014.

Question 3: How well supported are CCC2NAU students to transition to NAU and complete degrees? What CCC2NAU services contribute to successful degree completion?

Question 4: How well do advising services support students in transitioning to NAU? What are challenges to implementing CCC2NAU?

To address these questions, evaluators used multiple measures, including surveys and interviews of current and transitioned CCC2NAU participants, CCC2NAU advisors and administrator interviews, and NAU advisor interviews. Evaluators have provided ongoing findings related to program implementation across the years of the study. Since the start of TAACCCT funding, the CCC2NAU program manager and CCC administrators have incorporated evaluation findings to improve program delivery. Across methods and data sources, several themes have emerged to understand how the program supports successful transition. It should be noted that in-depth findings related to aspects of CCC2NAU that are functioning well and areas of challenge are presented in the two TAACCCT interim evaluation reports previously submitted (Magnolia Consulting, 2014; 2015). This section presents consistently highlighted themes across all years of the study and across data collection measures.

CCC2NAU Info Sessions Provide Clear Information About Participating

Across surveys and in interviews, students agreed that the CCC2NAU Info Session, required upon acceptance into the program, helped them to understand program eligibility, the benefits offered through the program, and services available to them as participants (see Appendix G for responses to CCC2NAU student surveys over time).

Students and NAU Advisors Value Targeted Advising

The targeted advising offered to students in CCC2NAU is intended to promote the transition process by clearly articulating courses at CCC with the baccalaureate degree of choice at NAU. Students are provided with Pathways and degree plans that lay out courses that can be taken at the community college as well as eventual course requirements at NAU. Across all years of the study, interviews and survey findings indicate a high level of satisfaction with the advising students receive from the CCC2NAU program.

"You have an advisor that helps you transition and walks you through step-by-step. That's paramount in making a person feel more comfortable with it."

-NAU transitioned student interview, Fall 2015

"CCC2NAU gives you point blank exactly the outline you need to get to the next level of education."

-NAU transitioned student interview, Fall 2015

On the Fall 2013, Spring 2015, and Spring 2016 surveys, students rated their level of agreement with statements about the CCC2NAU advising team on a 5-point scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *neither agree nor disagree*, 4 = *agree*, and 5 = *strongly agree*). At all three time points, students rated the CCC2NAU advising team highly with respect to knowledge of degree programs, helping them to achieve their academic goals, accessibility, and providing information for the transition to NAU (Figure 3).

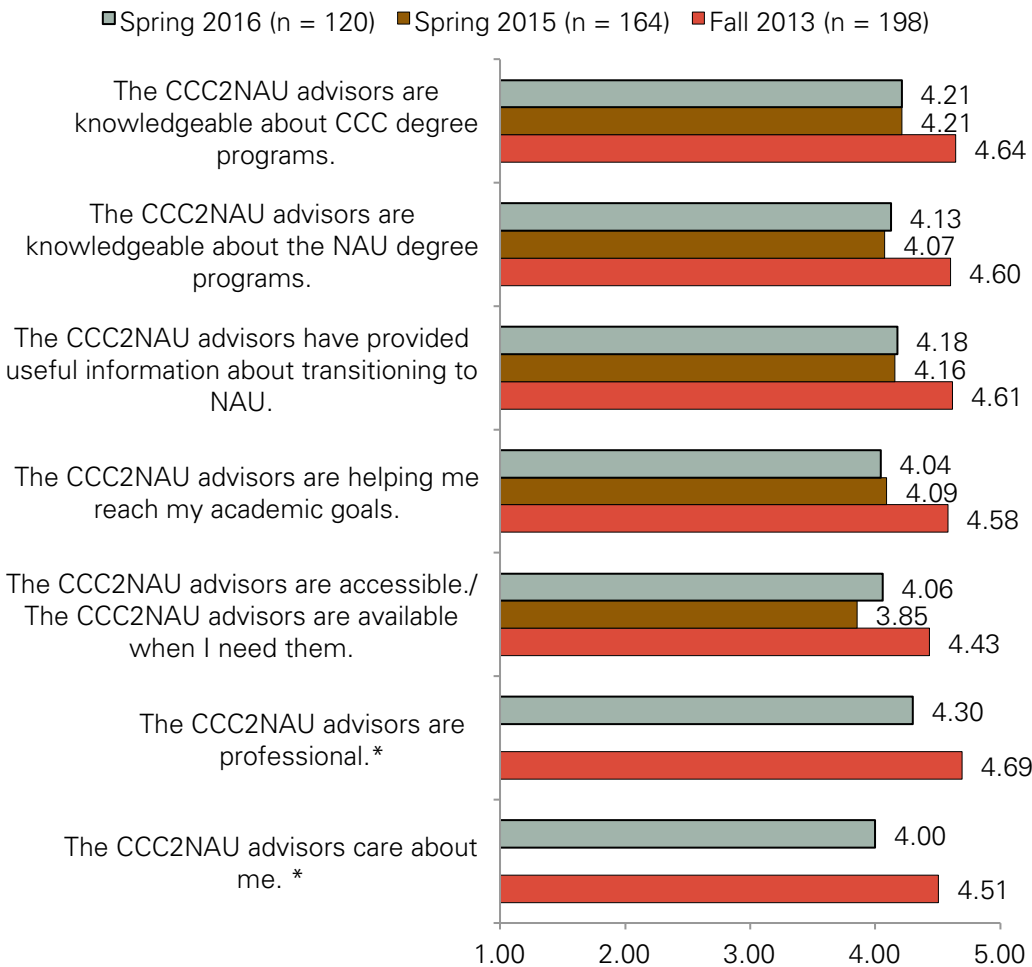


Figure 3. CCC2NAU students' perceptions of the CCC2NAU advising team across surveys.

*Not asked in Spring 2015 survey

Interviews with current CCC2NAU participants and with NAU students who have transitioned through the program indicated that the quality of advising and the targeted nature of the advising is the most highly valued aspect of participating in CCC2NAU. Students indicated that degree Pathways created by the program provided a clear roadmap for their baccalaureate degree at NAU while they were enrolled at CCC. A typical CCC2NAU participant comment was, "It is a valuable asset to have people who can guide a person through the process of preparing for the transition to NAU and making sure that all of the requirements are being met toward a degree."

"I think CCC is the smartest thing you could do. I've been out of high school for two years and know I just want to go to NAU. You can get used to the college environment and it's easy to understand. As a first generation college student—there is a lot to figure out. It can be kind of scary." -CCC2NAU student interview,

Across surveys, CCC2NAU students rated the following advising benefits highly (Table G-2 in Appendix G):

- automated transfer of credits between CCC and NAU
- a customized CCC degree plan that matches NAU major requirements

- advising from staff trained in both CCC and NAU degree planning
- ability to register early for NAU classes for the transition semester
- help with admissions, registration, and transition to NAU
- tuition savings while at CCC.

In interviews, students who transitioned to NAU expressed similar perceptions of CCC2NAU advising while they were in the program. Evaluators most frequently coded responses to questions about program benefits as *support for transitioning* and *advising benefits*. Appendix H presents a summary of transitioned student interviews by code. A typical transitioned student comment was,

“The big thing about CCC2NAU was that they helped me to pick out classes that would transfer over to NAU. I didn't want to take classes that wouldn't be transferred. They helped you get credits transferred and get the AA degree. There is someone at the community college that could say ‘This is what you need to do next.’ It was having somebody on the ground that knew where I was headed and how to get there.”

Students Are Supported for Transitioning to NAU

In addition to advising for degree paths, transitioned students noted that the support they received through the program at the time of transition was invaluable. They commented that help with “paperwork and transcripts” as well as the information presented at the

“Support with paperwork and transcripts was a benefit. They also supported me personally. I still communicate with a CCC2NAU advisor. She still cares about my success and how I'm doing on this chapter of my life. That goes a long way with feeling supported.”

-NAU transitioned student interview, Fall 2015

mandatory Transition Workshop provided a smooth process for moving from CCC to NAU. Students attend the Transition Workshop in the semester before transitioning where they receive information on the NAU application process and timeline, financial aid, early registration, and information on clearing holds for advising at the university. Additionally, a representative from NAU’s Transfer and Commuter Connections Center presents at the workshop on support and services available to students after transitioning.

NAU advisors who receive the CCC2NAU students who transition to the university see CCC2NAU participants as ready to transition. (For an in-depth description of NAU advisor

“I love it when they come in with their Pathways already done. It's nice—some students have no idea what program requirements are, and they get frustrated when I tell them, “No, you have to go back and do this.” CCC2NAU students, I've noticed, already know and tend to have an idea of what they need and that makes the conversation much easier.”

-NAU advisor interview, Spring 2015

perceptions of the program see the second interim TAACCCT evaluation report; Magnolia Consulting, 2015). NAU advisors feel that CCC2NAU advisors have an in-depth understanding of the degree plans at NAU. NAU advisors noted that students are meeting prerequisite requirements for upper division classes prior to transitioning to NAU. A typical NAU advisor quote was,

"I think because CCC2NAU staff is so familiar with the [degree] requirements that rarely does a student come in with any deficiencies." They noted that checklists provided by CCC2NAU advisors prior to transitioning support students in their first advising appointment at NAU.

Current and Transitioned CCC2NAU Students Value the Program Highly

Across CCC2NAU participant surveys and interviews with current and transitioned CCC2NAU students, participants find CCC2NAU to be valuable in helping them achieve their academic goals. As presented in the interim evaluation reports (Magnolia Consulting, 2014; 2015) and in data collection measures since the last report, support for the program among participants is high. Ratings of the overall CCC2NAU program ranged from 4.35 to 4.70 on a 5-point scale (Table G-4, Appendix G over the times surveyed. Across three surveys, an average of 97.3% of participants indicated they would recommend CCC2NAU to a friend.

CCC2NAU Participants Value the Community College Experience

Across surveys and interviews of current and former CCC2NAU students, several themes emerged with respect to the community college experience. Students value CCC2NAU because it allows them to start higher education in an environment that is smaller than the university with small class sizes and accessible faculty and staff. Transitioned students now in the larger university environment noted that they felt supported at the community college. A typical transitioned student comment was, "The class size was fantastic. You could generate a relationship with the instructors."

Nontraditional transitioned students felt that the community college environment was more supportive of older learners than the university environment. Several commented that finding a support system for older students has been more challenging at the university where the undergraduate student population is generally younger.

Instructors at CCC took an interest in the students and really cared. Instructors understood the non-traditional experience and type of student.
-NAU transitioned student interview, Fall 2015

Across surveys and interviews, students noted that the cost savings at the community college was a very important reason for participating in CCC2NAU. A typical student quote was, "I'm getting the education I need for my career at an affordable price."

Transitioned Students Offer Suggestions for CCC2NAU Improvement

Evaluators have provided formative feedback on CCC2NAU to program staff and CCC administrators throughout the grant period (see interim evaluation reports; Magnolia Consulting, 2015; 2016). In addition to what has previously been reported, NAU transitioned students offered ways in which the program could have worked better to support their transition experience (Appendix H). These included

- ensuring consistency among CCC2NAU advisors and the information they present;

- providing more information on extracurricular opportunities, such as clubs and internships at NAU while at CCC;
- providing more information about veteran and Native American support at NAU;
- tours of NAU campus;
- information on scholarship and internship opportunities at NAU
- mentoring by students who have transitioned; and
- facilitating face-to-face meetings with NAU advisors prior to transitioning.

Institutional Collaboration Strengthens Support for Transitioning

CCC and NAU administrators and advisors see the close collaboration between institutions since program inception as contributing to positive outcomes for participating students. Collaborations include

- regular meetings of the CCC2NAU Coordinating Council consisting of representatives from CCC and NAU;
- sharing of student data across institutions;
- sharing of information between the CCC2NAU program manager and advisors and NAU advisors to prepare for transitioning of individual students;
- embedding of NAU advisors within the community college to provide consistency in advising services and in-house training of other CCC2NAU advisors including those funded by CCC;
- frequent communication between institutions about changes to degree plans and course work requirements;
- supporting of recruitment efforts through NAU Admissions referring students to CCC2NAU who do not meet entrance requirements at the university.
- clearly delineated and communicated processes to prepare transitioning CCC2NAU students for the initial advising appointment at NAU;
- assigning of peer mentors at the NAU Transfer and Commuter Connections specifically to former CCC2NAU students and providing of information at the CCC2NAU Transition Workshop;
- opportunities for advisors at both institutions to come together socially at CCC and for CCC2NAU advisors to visit the NAU campus; and
- opportunities for students to utilize the reverse transfer benefit of the program to apply for an associate degree at CCC after transitioning to NAU.

Challenges to Implementing the CCC2NAU Program

As the CCC2NAU program continues to grow, administrators and advisors noted challenges to implementing the program in interviews with evaluators. These include the following:

- The program provided high-touch advising, which is resource intensive and becomes more challenging with expanded growth. With growing numbers, students may wait longer for advising appointments than in the past.
- CCC2NAU program manager and advisor time is also intensive with respect to continually updating Pathways to integrate new NAU degree information into advising sessions.
- Communications between institutions are a cornerstone of program success but can be time intensive with respect to communicating with new NAU advisors about the program and processes.
- Maintaining consistency of advising across new CCC2NAU advisors requires concentrated training and supervision.
- Costs of program benefits increase as numbers increase, including the amount spent on ID cards and free admission to NAU athletic and other events.
- Concurrent growth on the NAU campus means that current CCC2NAU students who want to live on campus are competing with first-time freshmen at NAU who are given priority in housing.

Question 5: What is the level of use of online services for information dissemination and degree audit? How is institutional capacity to serve students enhanced through these services?

Through TAACCCT grant funding, CCC modified and upgraded Degree Works. Degree Works is a web-based degree audit and tracking system that allows students to determine requirements for a specific degree and evaluate their progress toward degree completion and graduation. Degree Works allows students to examine the courses they have taken or had transferred from other institutions and determine which courses are in progress or still needed for their declared program of study. The system also allows students to examine their GPA and academic standing and determine if there are holds on their registration. Degree Works is accessible to all CCC students, including CCC2NAU participants and nonparticipants, and thus builds institutional capacity for all students.

Degree Works Usage Increases During Funding Period

Between January of 2014 (when Degree Works went live) and May 30, 2016, over 8200 students have logged into Degree Works to check on degree progress and academic standing. When asked which aspects of TAACCCT funding are successful and sustainable beyond the term of the grant,



8273 students have used Degree Works

CCC staff and administrators note that Degree Works is particularly useful, and college will continue to fund the program after TAACCCT funding expires. Administrators noted that Degree Works fits the model of “high-touch, high-quality” advising by providing students with support to stay on top of their degree progress between face-to-face advising appointments. CCC2NAU advisors note that Degree Works gets students familiar with the concept of self-

tracking (rather than only relying on updates from advisors) while they are at the community college, which translates well to use of online degree tracking once they transition to NAU.

Starfish Early Alert Usage Increases During Funding Period

Through TAACCCT funding, CCC purchased Starfish Early Alert, a web-based program that allows instructors and advisors to intervene or provide positive feedback on academic progress early in the term with the goal of encouraging successful course completion. The customizable program uses a survey format that enables instructors to provide quick student feedback three times a semester. Through alert “flags” and “kudos,” instructors share information on attendance, performance, assignments, and grades.



Faculty sent over 5800 academic alerts and kudos through Starfish

CCC piloted Starfish in Summer 2014 with four remedial course instructors and their students. The program expanded to reach more students and instructors in subsequent semesters. The use of Starfish continues to grow. In the year since the last interim evaluation report total tracking items including missing and late assignments, attendance concerns, general academic concerns, and kudos for good performance and participation have grown significantly (see Appendix I). CCC staff is working with faculty to overcome challenges to implementation and raising student awareness of the program to increase usage.

CCC2NAU advisors are seeing benefits to the Early Alert system. In an interview, one CCC2NAU advisor commented, “We get alerts if students are doing poorly, and we call them. They are appreciative of it and know we care about their progress.”

Question 6: How did online course offerings expand through TAACCCT funding?

Online Courses are Revised and Created

As part of grant activities, CCC identified four courses for minor revision, and six courses for substantial revision for online delivery. This activity was intended to support distance learners and working students to increase access to courses with in their program of study. CCC met its goals for online course completion for the grant period. Activities included revision to course content, and Subject Matter Expert review, as per TAACCCT requirements. Courses were reviewed to ensure that they met the requirements for transfer to NAU and credit in baccalaureate degree programs. CCC will begin implementing revised courses in the Fall 2016 semester. Table 1 presents courses revised for online delivery.



10 courses revised or created for online delivery

Table 1. CCC Course Revisions for Online Delivery

Course	Description of activities
MAT 142: College Math	Complete revision of course
REL 201: Comparative Religions	First time online offering
AJS 101: Introduction to Administration of Justice	First time online offering
BIO 160: Introduction to Human Anatomy and Physiology	Revision from hybrid to completely online offering
AHS 141: Medical Assistant I	Revision from hybrid to completely online offering
SOC 210: Sociology of Gender	Existing online course, substantial revision.
BIO 182: Unity of Life II: Multicellular Organisms	Revision from hybrid to completely online offering
SOC 130: Human Sexuality	Existing online course, substantial revision.
ACC 255: Principles of Financial Accounting	Existing online course, substantial revision.
GEO 133: World and Regional Geography	Existing online course, substantial revision.

Question 7: How are project activities related to establishing a data collection, analysis, and reporting system implemented?

Improving the data collection, analysis, and evaluation of the CCC2NAU program was one of the priority areas identified by CCC in the TAACCCT statement of work. CCC staff and CCC2NAU program managers desired more streamlined and accurate methods for examining student retention and graduation rates at CCC and NAU and sought to document processes and procedures for data collection and analyses.

Since the start of the TAACCCT grant, CCC filled a vacancy for the position of director of Institutional Research and (partially through TAACCCT funds) hired a systems analyst. In cooperation with CCC's registrar and with CCC2NAU program staff, these individuals have worked to develop and document processes for tracking students between and across institutions. These efforts include working with NAU's office of Planning and Institutional Research (PAIR) to share information on CCC2NAU participants. Newly developed processes allow for CCC and CCC2NAU staff to log in to NAU's Business Objects student data program to pull information on students who have enrolled at NAU and become part of a cohort at the university. NAU IDs are crosschecked with CCC IDs and the systems analyst provides reports across sources to ensure data accuracy.

Prior to these revisions, CCC staff was limited to a department-specific database within CCC2NAU. For reporting, the database had to be integrated manually with the CCC's information system and cleaned, and the data had to be compiled in order to integrate additional information about students beyond their name. To improve that process, a flag was created within CCC's information system and processes set up between a CCC2NAU employee and an employee in the registrar's office. Files on participants are shared frequently to verify which students are in the program so a flag could be activated within the CCC system to indicate

participants in the program. Additionally, a reporting dashboard was created that allows for examination of aggregate CCC2NAU participant data at any point in time. These processes allow for “real-time” data to be shared on an ongoing basis.

Data from the newly developed information sharing processes will allow for more accurate and efficient reporting on program outcomes related to transition, retention, and graduation. The data also allow CCC2NAU advisors to identify students who transitioned to NAU without being awarded an associate degree, thus allowing them to follow up with students who qualify for the degree at CCC in an effort to try to increase degree completion rates at the community college.

Question 8: What are the workforce needs and employee skills of local manufacturing employers? How does CCC respond to employer workforce need?

Priority 5 of the CCC TAACCCT statement of work involved conducting a gap analysis to understand how well the college is meeting the needs for regional workforce development. Evaluators surveyed local employers, reviewed Business Advisory Council meeting minutes, and observed council meetings to understand employer workforce needs and how CCC can respond to those needs. Information from the gap analysis was used to help inform modifications to courses taken by CCC2NAU and nonparticipating CCC students and provided information to inform online course development, a TAACCCT-funded grant activity.

Through a survey of 58 regional employers representing 49 northern Arizona employers, evaluators collected feedback on how well CCC meets local organizations’ current and future needs for workforce preparation and how various courses and programs at CCC might be improved to better prepare students for employment in the region. Additionally, evaluators asked individuals who hire graduates with Administration of Justice degrees to provide feedback on degree coursework that might lend itself to online delivery. In-depth findings from the business survey are presented in the second interim evaluation report (Magnolia Consulting, 2015). Highlights from the survey include the following:

- Employers expect their workforce needs to increase over the next five years. Of the respondents, 79.3% indicated that they have employed CCC graduates in the past five years, indicating workforce development is a significant aspect of services provided by the college.
- Employers noted that cost of living and lack of skilled workers in the region are significant barriers to workforce development.
- Employers rated CCC graduates highly with respect to overall proficiency in the workplace and indicated room for improvement in “soft skills” and job search skills.
- Employers provided suggestions with respect to addressing specific job-related skills and cited the need for more opportunities for students to gain experience in the field prior to entering the workforce.

Proposed TAACCCT grant activities included the development or revision of online courses to expand the capacity to serve more students. Survey findings were used to support

the development of a new online offering of an AJS 101 course for students in the Administration of Justice associate degree program, one of the 10 courses developed for online delivery through TAACCCT funding.

Evaluators analyzed meeting minutes and information from 23 Business Advisory Council meetings during the TAACCCT funding period. These included councils in the areas of construction management, allied health, administration of justice, nursing, American Sign Language/ Interpreting, computer information systems, environmental studies, fire sciences, Emergency Medical Services, and business.

Review and coding of advisory council minutes revealed that at meetings CCC faculty provided programmatic updates, such as number, times, and types of courses; enrollment; instructors; degree requirement; and successful/unsuccessful aspects of courses and degrees (n = 44). Employers provided field updates regarding employment options, certification needs, community support and involvement, new issues in the area to be aware of, computer skills needed, and trends in employment opportunities (n = 32). Members of the advisory boards also discussed the need for stronger communication skills (including interpersonal skills and work ethic as well as general communication) as key requirements for success in the workplace (n = 21). An almost equal number of members desired an increase in hands-on job experiences for students prior to employment (n = 19). In addition, many business members would like to improve high school outreach (n = 16) and internship opportunities (n = 12). Additionally, CCC Business Advisory Council leads provide employers with course syllabi for review to gather input on gaps in courses and coursework for particular fields.

Interviews with CCC administrators indicated that information from the needs analysis and Business Advisory Council meetings are being incorporated into future plans for online course offerings. They also indicate that current courses are incorporating more practice with “soft skills,” such as interviewing, communicating with colleagues, dressing for employment, and professional behavior to courses across the curriculum.

Overall Implementation: How did TAACCCT funds build capacity at CCC to better serve students?

Coconino Community College used TAACCCT funding to enhance services for marketing and recruitment into CCC2NAU, enhance CCC2NAU advising staffing and services and increase the online services offered to all CCC students, including degree progress tracking, early alerts on academic progress, and online course expansion (see Appendix J for a graphic depiction of CCC’s TAACCCT-funded activities).

Increasing the Capacity to Serve Students

CCC’s TAACCCT award provided funding for over 40 activities, including increased staffing, peer advising, recruitment and marketing activities and events, online service expansion, and equipment and supplies to enhance courses. As noted, institutional capacity was built to enhance staffing for advising to correspond with program growth, to provide targeted recruitment to potential participants, to provide online services for degree tracking and academic alerts, and to provide peer-advising services to students. An increase in advising staff corresponded to increases in CCC2NAU enrollment over the course of the study. Online

services that allow students to self-track degree progress as well as provide peer advisors to work with students on registering for classes and set up schedules, free up CCC2NAU advisor time so that face-to-face time with students can be spent on working on Pathways to transition and ensure that advisors can serve more students within a given day. TAACCCT funding provided opportunities to try new services that benefit all students, including those who participate in CCC2NAU. The institution will sustain successful strategies and services implemented through TAACCCT funding now that TAACCCT funding has ended.

CCC2NAU Advising Support and Online Services Will be Sustained at CCC

TAACCCT funding allowed CCC to implement a number of activities and programs to support students in the CCC2NAU program and in the CCC student population as a whole. Appendix J presents the sphere of CCC's TAACCCT-funded activities implemented over the course of the grant. CCC administrators and staff indicated that the grant allowed the college to implement and evaluate several strategies and tools for building institutional capacity. Those that have proven most promising and will continue to be funded beyond the scope of the grant are as follows:

- CCC will continue to fund additional CCC2NAU advisors who were funded through the grant to respond to the consistent program growth.
- The systems analyst partially funded through TAACCCT will be fully funded by CCC.
- Degree Works will be continued beyond grant funding as it has shown promise in helping students to track degree progress between advising appointments.
- CCC2NAU online Info Sessions to orient new participants who are unable to make a face-to-face meeting will continue. Students will still be required to seek an initial in-person advising meeting after orientation.
- CCC will continue to fund peer advisors who were funded through the grant. CCC student response to peer advising has been highly positive, and the program has helped to free advisor time from tasks such as helping students build schedules and checking class availability (Magnolia Consulting, 2014; 2015).
- CCC will continue to fund the Starfish Early Alert program beyond the grant period. Use of Starfish is in the early stages, and faculty use has been mixed. However, CCC would like to continue to examine program usage and perceptions and provide support to faculty and students' increased use of the program.
- CCC will continue to fund G/O Digital or a competitive Search Engine Marketing program to increase the online marketing presence of the CCC2NAU program and the college.
- CCC will continue to fund the student and staff portal system purchased through TAACCCT funding. The portals show promise in providing a means for students to view, share, and access information and connect with other students and staff.

Summary of Implementation Findings

CCC2NAU is serving a diverse population of students representative of the demographics of the region it serves. Through TAACCCT funding, Coconino Community

College implemented new strategies for recruiting participants into the program, including building its online presence through search engine marketing techniques. Recruitment events reached over 1000 potential participants and CCC will continue to use marketing materials funded through TAACCCT for its outreach events.

Students in the CCC2NAU program and those who participated and transitioned to the university value the program highly. Especially valued are the targeted advising that ensures that courses will transfer using the Pathways created for the program and the fact that advisors are trained in degree plans and program progressions for both CCC and NAU. NAU advisors who receive transitioned students indicate that CCC2NAU students are well-prepared for their initial advising appointments, understand the requirements of their degree plans, and are familiar with NAU services and processes.

Students in the CCC2NAU program appreciate the benefits of beginning their education at the community college. Current and transitioned participants indicated that the program offered them the cost savings of the community college, smaller class sizes, and more personal interactions with faculty that supported them to continue on in their academic careers.

CCC built its capacity to serve all students, including those in CCC2NAU through expansion of online services. Use of Degree Works, the online system for tracking degree progress, continues to grow and supports advising by allowing students to check their degree progress and academic standing at any point in time. Prior to Degree Works, students relied on face-to-face appointments with advisors for these updates. In addition to building student capacity to monitor degree progress, Degree Works supports advisors by freeing up time for more targeted advising related to degree planning and readiness to transition.

Through TAACCCT funding, the Starfish Early Alert system allows advisors and faculty to send alerts to students regarding their academic progress in a course. Advisors can follow up with students when alerts are given by faculty to provide further support and encouragement. Starfish serves all students including CCC2NAU, thus building institutional capacity to support student progress and in turn potentially impact retention.

Business leaders in northern Arizona take an active role in advising the college on their workforce needs. Through Business Advisory Council meetings, and throughout the year, business leaders provide input on new innovations in their fields, provide input on courses and curricula, and advise the college on specific skills needed in the workplace.

TAACCCT funding allowed CCC to try new strategies to build its capacity to better serve students in the CCC2NAU program and the broader CCC community. Several strategies will be sustained beyond the scope of TAACCCT funding including online services, increased staffing, and course and curriculum improvements.

Outcome Evaluation Studies

This section of the report presents the purposes, methods and findings related to the outcome studies.

Outcome Study Purposes

There were three overarching priorities that guided the evaluation questions. These priorities are as follows:

- how well TAACCCT activities supported (a) expansion of the program’s capacity to serve more students, (b) development of infrastructure for continued program assessment, and (c) incorporation of local employers’ needs into course design and delivery
- how well CCC2NAU a) recruits and retains students at Coconino Community College, fosters academic success and transitions students to NAU and (b) supports retention, academic success and graduation at Northern Arizona University
- TAACCCT outcome data collected over the grant period

Based on these priority areas, the evaluation questions are as follows:

1. In its efforts to serve students, how well did CCC2NAU meet its intended programmatic outcomes?
 - a. While at CCC, do students in the CCC2NAU program transition to NAU? How did transition, retention, degree acquisition, and academic success rates compare to corresponding rates for nonparticipating students?
 - b. For students transitioned to NAU, how did former CCC2NAU participants compare to nonparticipants with respect to retention rates, academic success, and degree completion?
 - c. How do NAU students who participate in CCC2NAU compare to nonparticipants with respect to self-efficacy, and satisfaction with their community college advising experience?
2. Did enrollment in CCC2NAU increase over the course of the project? Was there an increase in veteran and distance student participation?
3. Did the capacity to serve more students increase over the project period?
4. What are the numbers and characteristics of CCC2NAU TAACCCT participants?
5. How did CCC perform with respect to the TAACCCT outcomes related to participation over the course of the study?

Outcome Study Methods

The Outcome Study occurred in two parts: (a) a study of outcomes while the Fall 2012 cohort of CCC2NAU participants was still enrolled in CCC, and (b) a study of outcomes for the Fall 2014 cohort of CCC2NAU participants that had transitioned to NAU. To examine CCC2NAU

program outcomes while students were still enrolled in CCC (i.e., Outcome Study 1), evaluators compared outcomes between the Fall 2012 cohort of CCC2NAU participants and a matched comparison group of CCC students who did not participate in CCC2NAU. Coconino Community College institutional data served as the data source for these outcomes. To examine CCC2NAU program outcomes after CCC2NAU participants transitioned to NAU (i.e., Outcome Study 2), evaluators compared outcomes between the Fall 2014 transitioned (former) CCC2NAU participants and a matched comparison group that was also part of NAU's Fall 2014 cohort but that had not participated in CCC2NAU. Northern Arizona University institutional data served as the data source for these outcomes. Additional information about the outcome measures tracked across the study period is presented in Appendix K.

Outcome Study 1 Participants: Fall 2012 CCC Student Cohort

The final CCC analysis sample included students who began in the CCC2NAU program in the Fall 2012 and a matched group of comparison students. To be included in the treatment group, CCC2NAU students needed to (a) not have enrolled at NAU in last 10 years, (b) not have transitioned in their first CCC term, (c) have earned HS diploma or GED but not earned a bachelor's degree, (d) have attended NAU Info Session, and (e) have applied and enrolled in CCC during first term of application. To be included in the comparison group, students needed to meet eligibility requirements for CCC2NAU including not having attended a university prior to the Fall 2012 semester. The final analysis sample for the CCC analyses included a total of 421 students who were part of the 2012 CCC cohort. Of these students, 211 were CCC2NAU participants and served as the treatment group, and 210 were nonparticipants and served as the comparison group. Demographics and group equivalency for CCC2NAU and comparison students are presented in Appendix L.

Outcome Study 2 Participants: Fall 2014 NAU Student Cohort

The final NAU analysis sample included students who had transitioned from the community college to Northern Arizona University in Fall 2014. To be included in the comparison group, nonparticipants must have (a) not participated in CCC2NAU, (b) attended an Arizona community college before transitioning, and (c) not participated in another statewide 2NAU program or extended campus program. CCC2NAU participants and nonparticipants were removed from the analysis sample if they were enrolled in a Personalized Learning (online, self-paced) program because it handled credits, grades and course scheduling very differently from other programs. Based on these criteria, the final NAU analysis sample included 164 transitioned students. Of this sample, 83 were CCC2NAU participants and 81 nonparticipants. The NAU PAIR dataset was used in these analyses. Demographics and group equivalency for CCC2NAU and comparison students are presented in Appendix L.

Outcome Study 1: Findings for Students at CCC

Question 1: In its efforts to serve students, how well does CCC2NAU meet its intended programmatic outcomes?

- a. While at CCC, did students in the CCC2NAU program transition to NAU? How did transition, retention, degree acquisition, and academic success compare to nonparticipating students?*

Transition Rates from CCC

As previously noted, transitions to Northern Arizona University for completion of a baccalaureate degree, rather than immediate employment, is the intended program outcome of the CCC2NAU program. Transition to another four-year institution is also considered a positive program outcome. To examine how the program functions with respect to transitioning students to NAU, evaluators tracked the Fall 2012 cohort over eight semesters. Across the eight semesters, 100 of the 211 (47.39%) Fall 2012 CCC2NAU students transitioned to four-year institutions (Figure 4). Of these, 79 transitioned to Northern Arizona University (79.0%) and 21 to other institutions (21.0%). The majority of CCC2NAU students (74.00%) transitioned in the first two years after enrollment.



Figure 4. Transition of Fall 2012 CCC2NAU participants across study years.

Of the 211 Fall 2012 CCC2NAU students, 65 (30.80 %) were new to higher education at enrollment. Of those new to higher education, 26 (40.0%) transitioned to a four-year institution within the four years of the study. This rate is higher than that reported in a 2015 study of Arizona statewide transfer rates. In that study, for the 2007–2008 cohort of students new to higher education 28% transferred within six years (AZtransfer, 2015).

Across the eight semesters, 42 comparison students transitioned to four-year institutions (Figure 5). Of these, 22 transitioned to Northern Arizona University (52.4%) and 20 (47.6%) to other institutions. As with CCC2NAU participants, the majority (71.4%) transitioned in the first two years.



Figure 5. Transition of Fall 2012 comparison students across study years.

To descriptively compare transition rates between CCC2NAU and comparison students, evaluators calculated the proportion of students in each group who transitioned to either Northern Arizona University or to another four-year institution. Next, evaluators conducted a z-test for independent proportions to determine if the difference in transition rates was statistically significant. Between the Fall 2012 and Spring 2016 Semesters, 47.39% of CCC2NAU participants (i.e., 100 of 211) and 20.00% of comparison students (i.e., 42 of 210) transitioned to a four-year institution (Figure 6), and results of the z-test indicate that the difference in transition rates was statistically significant ($z = 5.944$; $p = 0.002$, one-tailed). Thus, findings indicate that CCC2NAU students were more likely than comparison students to transition to a four-year institution.

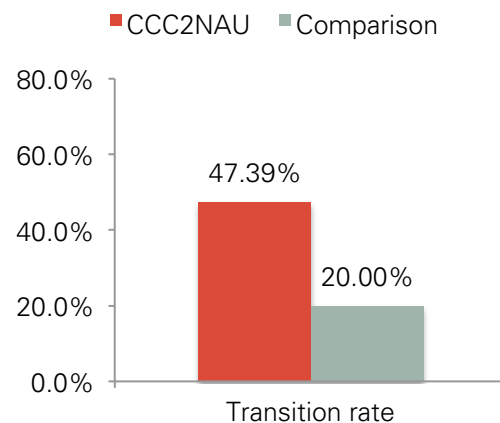


Figure 6. Percentages of Fall 2012 CCC2NAU and comparison students transitioning within the study period.

Next, evaluators used binary logistic regression to examine the extent to which, when controlling for various factors hypothesized to contribute to transition rates, students who participated in CCC2NAU were more likely to transition to another four-year institution than students who did not participate in CCC2NAU. Based on variables that have been shown to predict transitioning (Lee & Frank, 1990; Sheldon, 2009; Wood, Navarez & Hilton, 2012), the model included the following independent variables: whether or not the student participated in CCC2NAU, whether or not the student needed remedial math, whether or not the student was eligible for a Pell grant in Fall 2012, race/ethnicity, gender, age, cumulative GPA, and total number of credit hours completed. The full model was statistically significant $\chi^2(11, N = 416) = 72.31$, $p < .001$, which indicated that these predictor variables distinguished between students who transitioned and students who did not. Participation in CCC2NAU was a statistically significant predictor of whether or not a student transitioned to a four-year institution, even when other variables that are often associated with transition rates were included in the model. Finally, the associated odds ratio indicates that overall, when controlling for the other variables in the model, students who participated in CCC2NAU were 3.54 times more likely than nonparticipants to transition to a four-year institution. Appendix M presents summary statistics for the analysis.

Treatment-Only Predictors of Transitioning

As noted previously, previous literature suggests that a number of factors are important predictors of transfer rates. Therefore, based on the variables with available data, evaluators used binary logistic regression to explore which of the following were most predictive of transferring to a four-year institution among CCC2NAU participants only: race/ethnicity, gender, age, cumulative GPA, total number of credit hours completed, whether or not the student needed remedial math, participation in the TRIO program, and Pell grant eligibility in Fall 2012. The outcome variable for the model was whether or not CCC2NAU participants transferred to a four-year institution, and the model included all of the variables above. Findings indicated that

the full model was statistically significant $\chi^2(11, N = 211) = 32.44, p = .001$, suggesting that this group of predictor variables distinguished between CCC2NAU participants who transitioned and those who did not. Among these variables, the following were statistically significant predictors of transferring when controlling for other variables in the model: cumulative GPA ($p = .003$), Pell grant eligibility ($p = .02$), and ethnicity ($p = .045$). More specifically, for every 1-point increase in grade point average (GPA), CCC2NAU participants were 1.92 more likely to transfer to four-year institutions. Additionally, CCC2NAU participants who were eligible for a Pell grant in Fall 2012 were 2.13 times more likely than those who were not eligible for a Pell grant to transfer. Finally, white students were 2.44 times more likely than nonwhite students to transfer to a four-year institution.

First-Year Retention Rates at CCC

To examine whether CCC2NAU students were retained at a higher rate than comparison students, evaluators examined first year, fall-to-fall retention rates for each group (Figure 7). Students were excluded from retention analysis if they had transitioned to a university by the Fall 2013 semester. Additionally, students were excluded from this analysis if they earned an associate degree, which may have been a terminal degree for them and made them decide not to transition to the university. From Fall 2012 to Fall 2013, 62.57% of the CCC2NAU participants (i.e., 107 of the 171) and 47.31% of the comparison participants (i.e., 88 of the 186) who did not transition or earn a two-year degree were retained. A z-test for independent proportions indicated that the proportion of CCC2NAU students retained after one year was statistically significantly higher than the proportion of comparison students retained ($z = 2.893; p = .002$, one-tailed).

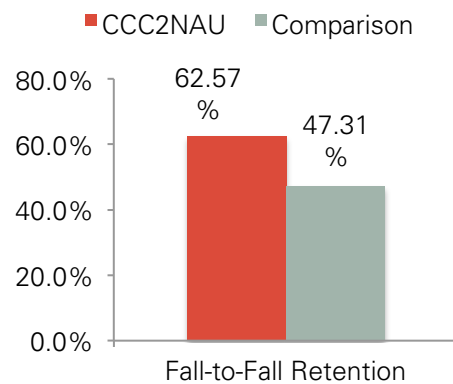


Figure 7. First-year, fall-to-fall retention of Fall 2012 cohort CCC2NAU and comparison students.

Academic Success While at CCC

While not an academic support program, it was of interest to program staff examine whether or not CCC2NAU students experience greater academic success compared to nonparticipants while at CCC. To address this question evaluators compared academic success rates (calculated by an average of grades of A, B, or C across semesters) of CCC2NAU students and nonparticipants. When controlling for courses completed and whether or not a student needed remedial coursework, there were no statistically significant differences in academic success between CCC2NAU participants ($M = 0.77, SD = 0.306$) and nonparticipants ($M = 0.81; SD = 0.267$) ($F(1, 214) = 0.062; p = .804$).

Associate Degree and AGEC Certificate Attainment

Associate degree and AGEC certificate completion are considered positive outcomes of the CCC2NAU program because they support a student in their four-year degree attainment at Arizona universities. AGEC certificates constitute the required general education courses accepted for transfer to a four-year degree program. Evaluators calculated degree and AGEC

completion rates using institutional data provided by CCC, which only includes completion data while at CCC. As part of the CCC2NAU program, students may complete a reverse transfer after transitioning to NAU. This allows course credits earned at the university to transfer back to the community college, which enables students to complete the CCC associate degree requirements while working toward a baccalaureate degree at NAU. Because reverse transfer data was not completed in time for this report, actual degree completion rates among study participants may be higher than what is reflected in the data used in the following analyses.

Evaluators used the z-test for independent proportions to determine how degree acquisition and AGECEC acquisitions rates compared between CCC2NAU and comparison students across all years of the study. Between the Fall 2012 and Spring 2016 semesters, 18.01% of CCC2NAU participants (i.e., 38 of the 211), and 11.43% of comparison students (i.e., 24 of the 210) received a two-year degree from CCC (Figure 8). The z-test revealed that the difference in degree acquisition rates was statistically significant ($z = 1.905$; $p = .03$, one-tailed). For AGECEC completion, 17.06% of CCC2NAU participants (i.e., 36 of the 211), and 6.19% of comparison students (i.e., 13 of the 210) earned an AGECEC certificate from CCC between the Fall 2012 and Spring 2016 semesters. The z-test revealed that the difference in AGECEC completion rates was also statistically significant ($z = 3.478$; $p < .001$, one-tailed). Therefore, findings indicate that CCC2NAU participants were more likely than comparison participants to earn two-year degrees and AGECEC certificates.

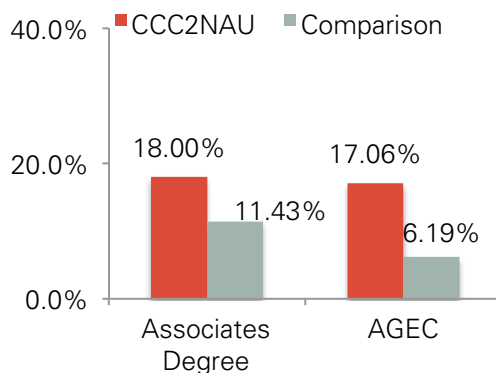


Figure 8. Proportions of Fall 2012 CCC2NAU and comparison students earning a two-year degree and AGECEC certificate during the study period.

Outcome Study 2: Findings After Transitioning to NAU

Question 1: In its efforts to serve students, how well does CCC2NAU meet its intended programmatic outcomes?

b. For students transitioned to NAU, how did former CCC2NAU participants compare to nonparticipants with respect to retention rates, academic success, and degree completion?

Evaluators tracked the NAU Fall 2014 cohort of former CCC2NAU participants and the matched comparison group through the Spring 2016 semester and compared the groups on the

following outcomes: baccalaureate degree acquisition, AGEC and associate degree completion, first-year retention rates, and academic success while at CCC.

AGEC and Associate Degrees for Transitioned Students

For the NAU study, evaluators examined whether former CCC2NAU participants differed from comparison students at NAU with respect to whether they had completed an associate degree and/or AGEC certificate toward their baccalaureate degree. Of those in the Fall 2014 NAU study cohort, 65.06% (54 of 83) former CCC2NAU students and 44.44% (36 out of 81) comparison students had received an AGEC certificate. The z-test revealed that the difference in AGEC proportions was statistically significant ($z = 2.653$; $p = .004$, one-tailed). Of those in the NAU study, 63.86% (53 out of 83) of former CCC2NAU participants and 51.85% of comparison students (42 out of 81) had received an associate degree. The difference in associate degree attainment among the NAU Fall 2014 cohort was not statistically significant ($z = 1.557$; $p = .06$) indicating that former CCC2NAU participants and comparison students had acquired associate degrees at an equal rate before continuing with their baccalaureate degrees.

Fall 2014 Study Cohort Baccalaureate Degree Attainment at NAU

Graduation from Northern Arizona University is the intended long-term outcome of the CCC2NAU program. The intent of the program as depicted in the logic model is to integrate students academically and socially into the university environment, thus supporting the transition process and ultimately leading to graduation. As a reminder, due to the short duration of the study, graduation rates are based on only three semesters at NAU. Evaluators used the z-test for independent proportions to determine how graduation rates compared between NAU students who had participated in the CCC2NAU program and comparison students who had not. Between the Fall 2014 and Spring 2016 semesters, 21.69% of CCC2NAU participants (i.e., 18 of the 83) and 16.05% of comparison students (i.e., 13 of the 81) received a baccalaureate degree from NAU (Figure 23). The z-test revealed that the difference in baccalaureate degree acquisition rates was not statistically significant ($z = 0.922$; $p = .35$).

First-Year Retention Rates at NAU

To examine whether transitioned CCC2NAU students were retained at a higher rate than comparison students, evaluators examined first-year, fall-to-fall retention rates for each group. Students were excluded from retention analysis if they had earned a baccalaureate degree within the first year. From Fall 2014 to Fall 2015, 82.72% of the CCC2NAU participants (i.e., 67 of the 81 not graduated) and 70.51% of the comparison participants (i.e., 55 of the 78 not graduated) were retained (Figure 9). A z-test for independent proportions indicated that the proportion of transitioned CCC2NAU students retained after one year was statistically

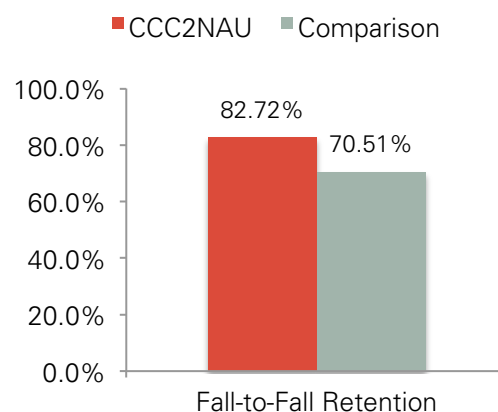


Figure 9. Proportions of transitioned CCC2NAU and comparison students retained after one year.

significantly higher than the proportion of comparison students retained ($z = 1.820$; $p = .03$, one-tailed). Readers should interpret these findings with caution due to small samples sizes.

Grade Point Averages at NAU

Evaluators compared cumulative GPAs of Fall 2014 former CCC2NAU participants and nonparticipants at NAU to examine whether there were differences in academic achievement at NAU. When controlling for academic plan, there were no statistically significant differences in academic success between CCC2NAU ($M = 2.87$, $SD = 1.30$) and nonparticipants ($M = 2.87$; $SD = 0.89$) ($F(1, 162) = 0.002$; $p = .96$)

Student Self-efficacy With Transitioning

Question 1: In its efforts to serve students, how well does CCC2NAU meet its intended programmatic outcomes?

c. How do students who participate in CCC2NAU compare to students who do not participate with respect to self-efficacy, and satisfaction with their community college advising experience?

To address this question, evaluators conducted a survey of former CCC2NAU and comparison students who transitioned to NAU in the Fall 2014 semester. NAU's Office of Planning and Institutional Research distributed the survey on behalf of Magnolia Consulting to a total of 84 former CCC2NAU participants and 84 nonparticipants (comparison group students). Of these 168 students, 26 CCC2NAU participants and 10 nonparticipants completed the survey, yielding an overall response rate of 21.4%, a CCC2NAU participant response rate of 30.9%, and a nonparticipant response rate of 11.9%. Because of the small sample sizes of respondents, evaluators cannot make valid comparisons by study condition. Therefore, we present the key survey findings in Appendix N for interested readers. Findings from the 26 former CCC2NAU students were used as a data triangulation method for findings related to participant perceptions of the program presented in the implementation section of the report.

TAACCCT Outcomes

Question 2: Did enrollment in CCC2NAU increase over the course of the project?

Was there an increase in veteran and distance student participation?

Question 3: Did the capacity to serve more students increase over the project period?

Question 4: What are the numbers and characteristics of CCC2NAU TAACCCT participants?

Question 5: How did CCC perform with respect to the TAACCCT outcomes related to participation over the course of the study?

To understand whether enrollment increased in the CCC2NAU program over the course of the grant and who the program served, evaluators examined TAACCCT outcome data for participants provided by CCC's Institutional Research Office.⁴

Demographics of CCC2NAU TAACCCT participants

To be counted as a TAACCCT participant, CCC2NAU students (a) could not have previously enrolled at NAU, (b) must have participated in a CCC2NAU Info Session, and (c) must have completed at least one semester at CCC before transitioning to NAU. Students are considered inactive if they do not enroll for three semesters. Across Years 1–3, 1,091 CCC2NAU students were TAACCCT participants. Year 4 included an additional 411 students. Across Years 1-4 of TAACCCT funding, the program served 758 (50.5%) males and 744 (49.5%) females. The majority of TAACCCT participants (56.6%) were White. Native American students constituted 14.0% of students, while Hispanic/Latino students comprised 19.1% of the population. TAACCCT participants across the four years included 102 veterans (6.8%) of participants. Across the years, most students attended full time (70.2%). Of the CCC2NAU TAACCCT participants, 47.9% across four years were Pell grant eligible. Table 2 provides demographics for students considered TAACCCT participants by year of TAACCCT funding.



1,091 TAACCCT participants served in Years 1–3

⁴ These numbers are lower than those reported by NAU PAIR presented in Appendix A due to differences in eligibility requirements to be considered a TAACCCT participant.

Table 2. TAACCCT Participant Demographics by Grant Year

	Year 1		Year 2		Year 3		Year 4		Four-Year Total		
	n	%	n	%	n	%	n	%	n	%	
Gender											
Female	152	46.8%	178	54.4%	229	52.2%	199	48.4%	758	50.47%	
Male	173	53.2%	149	45.6%	210	47.8%	212	51.6%	744	49.53%	
Ethnicity											
Hispanic/Latino	50	15.4%	61	18.7%	88	20.0%	88	21.4%	287	19.1%	
American Indian/Alaska Native	48	14.8%	54	16.5%	52	11.9%	56	13.6%	210	14.0%	
Asian	8	2.5%	0	0.0%	2	0.5%	6	1.5%	16	1.1%	
Black/African American	7	2.1%	3	0.9%	13	3.0%	15	3.6%	38	2.5%	
Native Hawaiian/Other Pacific Islander	1	0.3%	1	0.3%	1	0.2%	1	0.2%	4	0.3%	
White	189	58.2%	188	57.5%	246	56.0%	227	55.2%	850	56.6%	
More Than One Race	18	5.5%	15	4.6%	28	6.4%	12	2.9%	73	4.9%	
Not Reported	4	1.2%	5	1.5%	9	2.0%	6	1.5%	24	1.6%	
Status											
Full time	214	65.8%	228	69.7%	315	71.8%	298	72.5%	1055	70.2%	
Part time	111	34.2%	99	30.3%	124	28.2%	113	27.5%	447	29.8%	
Other Demographics											
Eligible Veterans	28	8.6%	24	7.3%	30	6.8%	20	4.9%	102	6.8%	
Participant Age (Mean)	24.7	-	23.9	-	25.3	-	26.2	-	-	-	
Persons with a Disability	17	5.2%	25	7.6%	21	4.8%	20	4.9%	83	5.5%	
Pell Grant Eligible	155	47.7%	186	56.9%	211	48.1%	167	40.6%	719	47.9%	
TAA eligible	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	

Coconino Community College tracked TAACCCT outcome measures required for annual reporting. These included demographics of participants, and indicators related to participants in CCC2NAU as they related to the TAACCCT outcomes specified in the statement of work (Table 3). Targets for Years 1–3 are included for those proposed in CCC’s TAACCCT statement of work. Year 4 participant data are also presented for reference.

As shown in Table 3, over the course of Years 1–3 of TAACCCT funding, CCC2NAU expanded to serve 1,091 students. Of the participants in Years 1–3, 378 (34.6%) completed a program of study, indicating transition to a four-year institution. Of the TAACCCT participants, 178 (16.3%) earned credentials (Associate degree, AGECE certificate or other certificate). Of the participants in Years 1–3, 82 (7.51%) were veterans and 13 (1.2%) were distance learners. While not meeting the targets set out in the proposed statement of work, the number of students served increased over the three years. NAU PAIR program data shows that growth continues into the Fall 2016 semester (beyond TAACCCT funding).

As previously noted, CCC received TAACCCT funding to enhance the CCC2NAU program, which has its primary outcome that of transitioning students from CCC into four-year degree programs at NAU. Therefore, while reported in the TAACCCT outcomes, near-term employment is not an intended outcome of the program. For Years 1–3, 248 program

completers were incumbent workers (employed at enrollment in CCC2NAU and transitioned to NAU).

Table 3. TAACCCT Participant Outcomes

Outcome Measures	Year 1	Year 2	Year 3	3 Year Total	3 Year Target	Year 4
1. Unique CCC2NAU participants served	325	327	439	1,091	2058	411
2. Total # of CCC2NAU participants who have completed a grant-funded program of study (transitioned to NAU during reporting year)	46	117	215	378	542	129
2a. Total # of grant-funded study completers who are incumbent workers (transitioned to NAU and employed at enrollment in CCC2NAU)	26	44	178	248	-	178
3. Total # still retained in their program of study (still active in CCC2NAU at time of reporting)	256	397	473	N/A	-	516
4. Total # retained in other education programs (dropped out of CCC2NAU but continue at CCC)	9	14	20	N/A	-	25
5. Total # of credit hours completed (aggregate across CCC2NAU)	5,464	6,082	11,201	22,747	-	15,470
5a. Total # of CCC2NAU students completing credit hours	311	510	573	-	-	573
6. Total # of earned credentials (aggregate) (AGEC, AA or other certificate)	19	49	110	178	487	150
6a. Total # of students earning certificates less than one year (aggregate) (subset of Question 6)	1	2	1	4	-	0
6b. Total # of students earning certificates more than one year (aggregate) (subset of Question 6)	0	3	2	5	-	10
6c. Total # of students earning degrees (aggregate) (subset of Question 6)	18	44	107	169	-	138
7. Total # pursuing further education after program of study completion	46	117	215	378	-	129
8. Total # employed after program of study completion (not employed while in CCC2NAU, employed after transition to NAU)	0*	0*	0*	-	-	0*
9. Total # retained in employment after study completion (found employment after transition to NAU, retained in employment)	0*	0*	0*	-	-	0*
10. Total # of those employed at enrollment who receive a wage increase postenrollment	108	28	107	-	-	**
11. Total # of veterans enrolled in CCC2NAU	28	24	30	82	130	20
12. Total # of distance students enrolled in CCC2NAU	3	7	3	13	***	**

*Not employed within reporting timeframe

**Data not available at time of reporting

***Benchmark data not available at time of proposal. Targets were not set for these outcomes.

Summary of Outcome Findings

For students in Outcome Study 1 while at CCC, transition and first-year retention rates for the Fall 2012 cohort of CCC2NAU students were significantly higher than those of the comparison group. Findings regarding transitioning should be interpreted with caution, as it was not possible to ascertain whether students in the comparison group intended to transition. However, the comparison group does represent a matched group of students who would meet eligibility requirements for program participation and are representative of the typical CCC

student. Academic success did not differ significantly between participants and comparison students while at CCC.

For students in the Outcome Study 2 at NAU (Fall 2014 cohort), there was no difference in baccalaureate degree attainment in the first two years after transitioning between former CCC2NAU students and comparison students. First-year retention rates of former CCC2NAU students were significantly higher than those of comparison students. There were no differences between groups in academic achievement as measured by cumulative GPAs.

While not meeting the three-year targets set out in CCC's TAACCCT statement of work, over the course of Years 1–3 of TAACCCT funding, CCC2NAU served nearly 1,100 students with an additional 411 starting the program in Year 4. The program continues to grow in the Fall 2016 semester with over 500 students enrolled (CCC2NAU program manager, personal communication). Of the participants in Years 1–3, more than one third transitioned to NAU, which is the intended outcome of the program. Of the TAACCCT participants, 178 (16.3%) earned credentials (Associate degree, AGEC certificate or other certificate). Of the participants in Years 1–3, 82 (7.51%) were veterans and 13 (1.2%) were distance learners. While not meeting the targets set out in the proposed statement of work for numbers of participants, the number of students served increased over the three years.

Discussion

CCC2NAU is a program that provides services to students who intend to transition from Coconino Community College (CCC) to Northern Arizona University (NAU). While awarded TAACCCT funding, the program does not have employment as its intended outcome, nor does it target TAA eligible workers. Therefore, while offering successful strategies for community college- to-university transfer, it is unlike other TAACCCT-funded programs that seek to provide training programs and services that can be completed in two years or less to increase employment opportunities for workers to enter the workforce with enhanced skills and earning potential. CCC2NAU supports employment as a long-term goal by supporting them to pursue baccalaureate degrees and thus increase earning potential in the future.

Evaluation of CCC's TAACCCT grant aligned with CCC's priority areas for the grant: (a) increase interest in the CCC2NAU program, (b) expand the program's capacity to serve more students, (c) increase reach through online services and course delivery, (d) develop a sustainable infrastructure for data collection and assessment, and (e) conduct a needs analysis to determine industry sectors that would benefit from new programs and online offerings. Evaluation also examined how well the CCC2NAU program is meeting its outcomes of retaining and transitioning students to four-year degree programs.

Key Findings

CCC2NAU serves a diverse population of students reflective of the diversity of the region. CCC2NAU serves as an entry point to higher education for students who may be unable to go directly to the university due to factors such as the higher costs of university education, lack of academic preparation in high school or need for flexibility in class scheduling for working

students. For non-traditional students returning to education many years after high school, the small class sizes, smaller campus environment and approachable faculty help to ease the transition into higher education while supporting students in their long-term academic goals.

Results of the implementation and outcome evaluation indicate that the CCC2NAU program is functioning effectively in supporting students to transition to NAU and other four-year institutions and with respect to student retention. First year retention rates for the Fall 2014 cohort at NAU indicate that CCC2NAU students are retained at high rate once they make their transition. Future research as to the relationship between program participation and retention at the university would be beneficial to understanding the relationship between program services and persistence in baccalaureate degree programs.

While at the community college, students receive advising that is targeted to their long-term baccalaureate degree plans thus articulating coursework at the community college with the university in a streamlined manner, eliminating unnecessary or non-transferable courses. NAU advisors indicated that students enter the university advising process well prepared with respect to completing general education and prerequisite course work that applies toward their baccalaureate degrees. Students are prepared for the transition through program processes that streamline admissions, registration and awareness of support services at NAU. Communication between CCC2NAU advisors and NAU advisors supports the sharing of information with respect to baccalaureate degree requirements, registration and admissions processes, and with information on individual students in transition.

Current and transitioned CCC2NAU students place a high value on the program, with respect to targeted advising to streamline the transition to baccalaureate degrees and knowledge of the CCC2NAU advising staff to advise across institutions. They also noted that they receive a quality education at the community college, and value the cost savings and smaller environment of the community college while completing classes they know will transfer to their chosen baccalaureate degree program.

TAACCCT funding built institutional capacity at Coconino Community by expanding advising services to students in the CCC2NAU program through staffing and the opportunity to put online and peer advising supports in place that allow students to self-advise, where appropriate, in between face-to-face appointments with advisors. TAACCCT funding also allowed for increased staffing to support processes for cross-institutional data sharing and participant tracking which is challenging as the program continues to grow. Development of online courses to benefit distance learners is now in place and may have added benefits for future participants.

Program enrollment has grown since the program began in 2008 and continues to grow beyond TAACCCT funding. TAACCCT funding may have supported program growth and retention by providing funding to increase staffing and services available to students and allow for streamlined and highly targeted advising by CCC2NAU staff. TAACCCT funding may be a contributing factor to program growth, but there are other factors that may account for growth beyond the services provided through the grant. CCC2NAU staff indicated that in recent years, NAU is promoting the program to students who apply to the university but do not meet academic requirements. These students benefit from participation in CCC2NAU by starting higher education at the community college where they have the opportunity to raise their grade point average prior to applying to NAU. Staff also indicated that in recent years, the program is growing in out-of-state applications. While not specifically targeting recruitment out of state,

staff is reporting an increase in students coming from California indicating awareness of the program and the cost savings it provides is growing beyond the region.

Implications for Other Institutions

There are lessons learned from evaluating the CCC2NAU program that other community colleges may consider if implementing a similar transition program. Evaluation findings revealed that program features such as cross-institution collaboration and pathways, advising, student resources, and geographic proximity, generated both benefits and challenges.

Cross Institution Collaboration and Pathways

- Programs providing support for transitioning students between community colleges and universities provide benefits to both institutions with respect to enrollment, retention and degree attainment.
- Clearly articulated degree pathways provide a roadmap for community college students with the intent of transitioning to a specific four-year institution. Transitioned students come to the university with a clear understanding of degree requirements and with prerequisite course work completed.
- Maintaining current degree pathways requires resources for staff time and communication between institutions.
- Institutional agreements must include agreements for data sharing across institutions by advisors of each institution.
- Processes must be in place to share student data across institutional data platforms in order to keep participant data updated in a timely manner.

Advising

- Embedding university employed advisors within the community college supports clear communication and positive collaboration between institutions, and allows for ongoing monitoring of program activities and progress.
- Timely advising across institutions regarding changes to degree plans and course requirements ensures that students take classes that will apply toward their baccalaureate degree.
- High-touch, intensive advising is resource intensive and requires an adequate level of funding as program numbers increase.

Student Resources

- Advising checklists provide students with clear guidelines for their first meeting with a university advisor.
- A required Transition Workshop provides students with just-in-time information on university admissions, applications, financial aid, and registration and support services at the university to promote ease of transition.
- Online services for degree tracking provide students with a means to track academic progress and free up advising time for more streamlined advising related to transitioning.

- Peer advising services provide a means for helping students with registration and scheduling, and free advisor time for targeted advising related to transitioning.
- Early alert programs show promise in increasing the frequency of contact between students and their instructors and advisors, further supporting students in meeting their academic goals.
- As programs grow, benefits to participants beyond advising (housing on the university campus, free university ID cards and waived application fees) become more cost intensive.

Geographic Proximity

- With CCC2NAU, geographic proximity of the community college and the university supports the high level of communication and interaction between advisors that may be more challenging for geographically distant campuses.
- Geographic proximity also supported students in dual enrolling at the university while at the community college, which would not be possible for face-to-face classes.

Study Limitations and Need for Future Research

When interpreting the results from this study, it is important to understand the study's limitations. For the study to remain feasible, evaluators examined one cohort of CCC2NAU students at CCC and one cohort at NAU. This resulted in relatively small sample sizes that may limit the generalizability of findings to all students in the program. Future research involving all (or a larger sample of cohorts) across the program's history would strengthen the findings from this evaluation to be more generalizable.

Research design is another limitation of the study. Randomized controlled trials where study participants are randomly assigned to the experimental or control group are considered the gold standard in educational research. The study did not involve random assignment of students to CCC2NAU or to the comparison condition. Students self-select to participate in the program, and because it was not feasible to randomly assign students to a study condition, evaluators used propensity score matching to create comparable groups based on variables shown to be important in a review of the literature. However, matching procedures may not have included all variables in the process that had an impact on the outcomes. For example, when the study was implemented, the community college did not track intent to transition for students outside of CCC2NAU. They are now collecting that data as students apply to the college. Another factor that was not included in the matching procedures but that has been shown to impact transition rates is full-time employment status, but these data were not available at study start for inclusion in matching procedures. Further research involving groups that are also matched on intent to transition and employment status information would strengthen findings related to programs with transition to a four-year institution as the primary outcome.

Methods may also be a limitation of the study. Survey findings related to program participants' perceptions are based on self-report. Self-report methods may be biased by the

respondent's attitudes and beliefs at the time of the survey. Additionally, self-selection to participate in surveys and low response rates may indicate that survey responses are not representative of all students in the program. Students who chose not to participate in surveys may differ from those who responded. Evaluators administered surveys across multiple time points to increase the reliability of results. Evaluators also used structured interviews to triangulate findings from surveys and thus increase the validity of findings related to participation in CCC2NAU.

Lack of interview and survey data from transitioned students limited the ability to make comparisons of the transitioning experience between CCC2NAU participants and comparison students. Evaluators were not granted access to transitioned comparison students at NAU for interviews. Additionally, response rates were low for the transitioned student survey administered by the university on behalf of evaluators. Future research involving more in-depth qualitative and survey data on students who do not participate in a program supporting transition would add to knowledge in the field and help to understand how transition support programs function to achieve their outcomes.

In addition to the aforementioned limitations, the CCC2NAU program serves a very specific geographic region. The CCC and NAU campuses are in close proximity, allowing students to move easily between campuses for classes and events and also allowing for frequent in-person meetings between advisors and program administrators across campuses. As such, the study involved a specific group of students within a unique setting for implementation. This may limit generalizability beyond the study.

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Appendix A: CCC2NAU Student Demographics Fall 2008 Through Fall 2015

Table A-1. NAU PAIR Demographics for all CCC2NAU Students from Program Start Through Fall 2015 (Including TAACCCT Participants From Fall 2012 Through Spring 2016)

	2008–2009 (N = 102)		2009–2010 (N = 209)		2010–2011 (N = 210)		2011–2012 (N = 359)		2012–2013 (N = 444)	
	n	%	n	%	n	%	n	%	n	%
Gender										
<i>Female</i>	64	63.4%	98	50.3%	107	51.0%	179	50.3%	206	46.6%
<i>Male</i>	37	36.6%	97	49.7%	103	49.0%	177	49.7%	236	53.4%
State										
<i>AZ</i>	99	98.0%	202	96.7%	204	98.1%	332	93.3%	403	91.6%
<i>Out of State</i>	2	2.0%	7	3.3%	4	1.9%	24	6.7%	37	8.4%
First Generation										
<i>Yes</i>	8	7.8%	8	3.8%	50	23.8%	135	37.6%	24	5.4%
<i>No</i>	94	92.2%	201	96.2%	160	76.2%	224	62.4%	420	94.6%
Ethnicity										
<i>American Indian/Alaska Native</i>	14	18.9%	39	21.4%	42	20.3%	66	18.5%	82	18.6%
<i>Asian</i>	2	2.7%	1	0.5%	3	1.4%	2	0.6%	6	1.4%
<i>Black/African American</i>	2	2.7%	3	1.6%	2	1.0%	1	0.3%	9	2.0%
<i>Hispanic/Latino</i>	8	10.8%	17	9.3%	25	12.1%	43	12.1%	79	17.9%
<i>Native Hawaiian/Other Pacific Islander</i>	0	0.0%	1	0.5%	0	0.0%	0	0.0%	0	0.0%
<i>Two or More</i>	1	1.4%	4	2.2%	5	2.4%	22	6.2%	23	5.2%
<i>White</i>	47	63.5%	117	64.3%	130	62.8%	222	62.4%	243	55.0%

	2013–2014 (N = 417)		2014–2015 (N = 535)		Fall 2015 (N = 390)		Total (N = 2,666)		
	n	%	n	%	n	%	n	%	
Gender									
	<i>Female</i>	220	53.4%	266	50.0%	199	51.6%	1,339	50.8%
	<i>Male</i>	192	46.6%	266	50.0%	187	48.4%	1,295	49.2%
State									
	<i>AZ</i>	377	91.5%	488	91.6%	335	86.8%	2,440	92.2%
	<i>Out of State</i>	35	8.5%	45	8.4%	51	13.2%	205	7.8%
First Generation									
	<i>Yes</i>	185	44.5%	275	51.4%	225	57.7%	910	65.9%
	<i>No</i>	231	55.5%	260	48.6%	165	42.3%	1,755	34.1%
Ethnicity									
	<i>American Indian/Alaska Native</i>	64	15.5%	61	11.5%	45	11.8%	413	16.0%
	<i>Asian</i>	0	0.0%	2	0.4%	5	1.3%	21	0.8%
	<i>Black/African American</i>	4	1.0%	14	2.6%	14	3.7%	49	1.9%
	<i>Hispanic/Latino</i>	82	19.9%	120	22.6%	87	22.9%	461	17.8%
	<i>Native Hawaiian/Other Pacific Islander</i>	0	0.0%	4	0.8%	2	0.5%	7	0.3%
	<i>Two or More</i>	18	4.4%	33	6.2%	18	4.7%	124	4.8%
	<i>White</i>	245	59.3%	296	55.8%	209	55.0%	1,509	58.4%

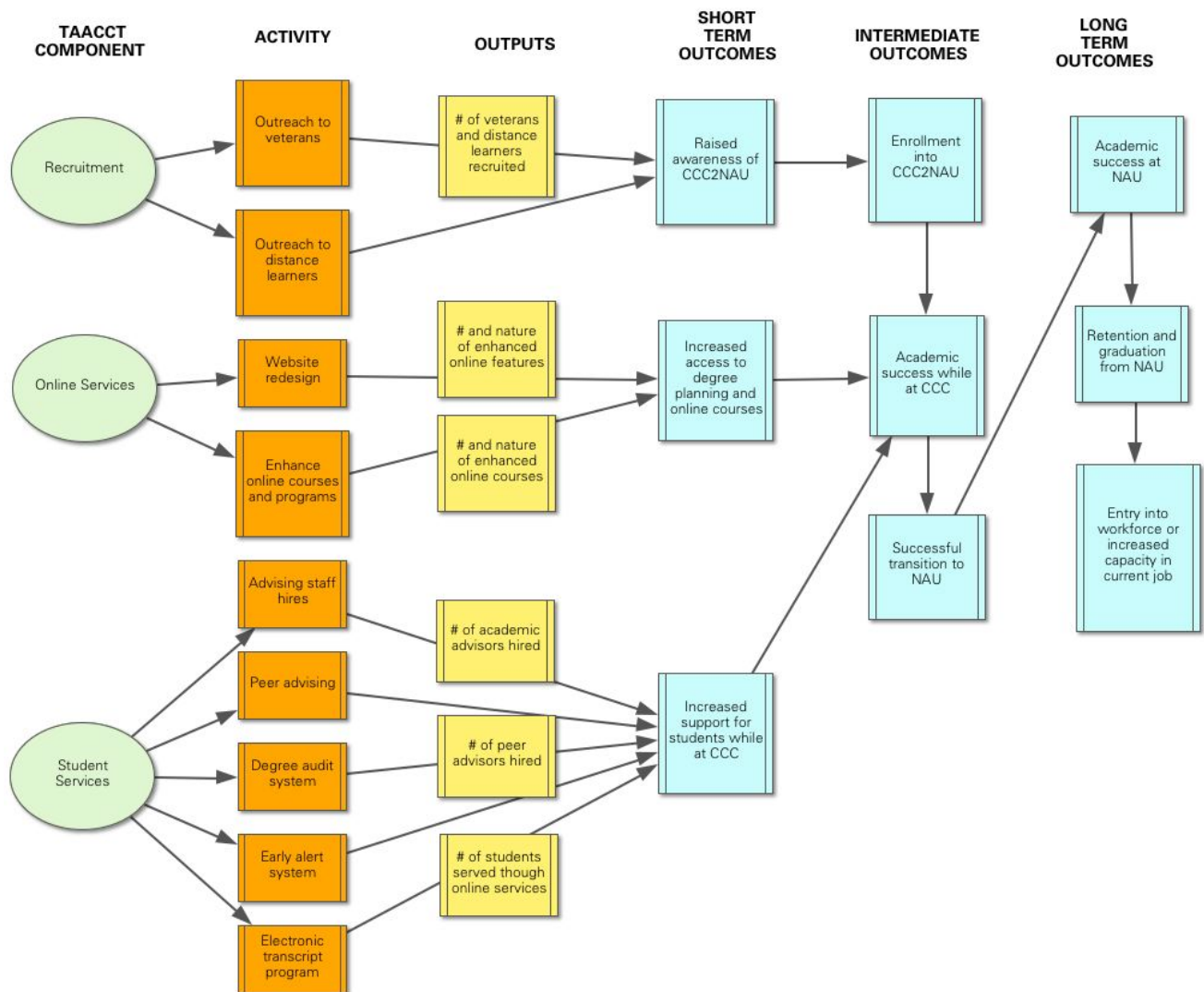
Table A-2. Mean Age of CCC2NAU Participants Across Program Years

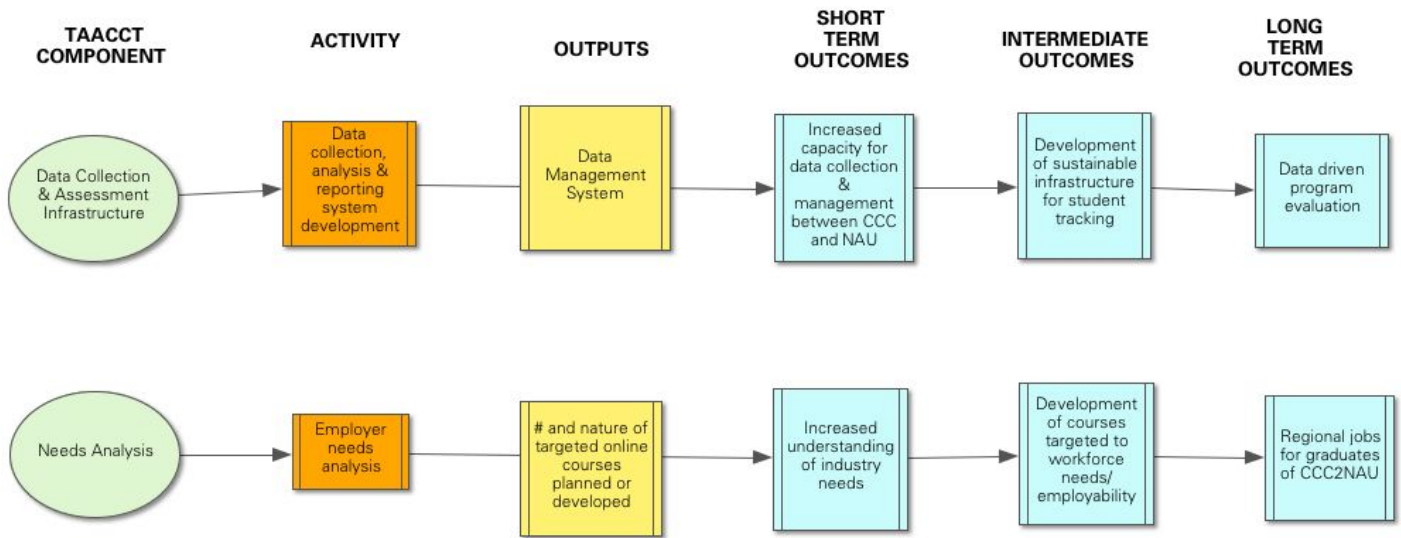
	<i>N</i>	<i>Age</i>			
		<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
2008–2009	75	37.77	11.79	25	71
2009–2010	185	31.85	9.47	24	66
2010–2011	209	30.47	8.94	22	65
2011–2012	359	29.91	9.00	21	64
2012–2013	444	27.30	8.20	20	73
2013–2014	416	25.99	8.31	18	64
2014–2015	535	23.50	6.86	18	61
Fall 2015	390	21.90	6.20	18	56
Total	2,613	26.74	8.89	18	73

Appendix B: Priority Areas of the CCC TAACCCT Grant

1. *Increase interest in the program through extended marketing efforts.* With TAACCCT funding, CCC2NAU will increase the scope of its recruitment and outreach, with particular attention to military veterans.
2. *Expand the program's capacity to serve more students.* To increase capacity, CCC is directing TAACCCT funds toward hiring additional advising staff for the CCC2NAU program. Additional grant-funded activities will help to reduce the time needed by academic advisors for individual students by building capacity for self-direction and peer support. These additional activities include the following:
 - developing an early alert system to facilitate faculty–student communication regarding a student's academic performance without the need for advisor intervention
 - modifying and updating a degree audit system so that students can track academic progress toward degree completion without advisor assistance
 - implementing an electronic transcript program to reduce the need for the advisor's job of researching equivalencies before advising students on program offerings and course selection
 - meeting with peer advisors after students have met with an academic advisor for additional guidance with building a class schedule, understanding the newly developed degree audit program and providing information on support programs available at CCC.
3. *Increase the program's reach through online services and course delivery.* TAACCCT funds are directed toward improving CCC's online presence, including a redesigned college website, a new student and faculty/staff portal, and interactive online information and orientation sessions for the CCC2NAU program. TAACCCT funds are also directed at improving online course offerings, including the redesign of existing courses in order to be effective in a distance learning format.
4. *Develop a sustainable infrastructure for data collection and assessment.* TAACCCT funds are dedicated to improving the CCC2NAU program tasks of data collection, analysis, and evaluation. This includes developing a sustainable infrastructure to track performance as the program grows.
5. *Conduct a needs analysis to determine the industry sectors that would most benefit from new CCC2NAU programs and online offerings.* As part of the grant activities, evaluators and CCC staff are conducting a needs analysis of local business partners that focuses on understanding how CCC could best modify courses and programs to support students in gaining skills that are relevant to the workplace.

Appendix C: Logic Model of TAACCCT Grant Activities





Appendix D: Study Procedures

Propensity Score Matching Procedures

As noted previously, this study occurred in two phases. Therefore, propensity score matching was used for the two purposes: first, to match treatment and comparison students who started at Coconino Community College in Fall 2012 (which corresponded to the start of TAACCCT funding) and second, to match the Fall 2014 transitioned CCC2NAU students to a comparison group of students who transitioned to NAU but did not participate in CCC2NAU.

Matching Groups Who Started at CCC in Fall 2012

For the first round of propensity score matching, Coconino Community College's Office of Institutional Research provided Magnolia Consulting with a database that included all students who started the CCC2NAU program in the Fall 2012 semester to coincide with the start of TAACCCT funding ($n = 212$) as well as students who were not CCC2NAU participants but met all eligibility requirements for the program ($n = 1,812$). CCC replaced identifying information with anonymous ID numbers to ensure that evaluators complied with FERPA regulations protecting student privacy.⁵ Evaluators imported the database into IBM SPSS 21, a statistical software program and selected eight variables for matching: gender, age at Fall 2012 enrollment, race/ethnicity, veteran status, full-/part-time status, number of transfer credits, whether the student was new to higher education in Fall 2012, and eligibility for Pell grant funds (a proxy measure for SES). Next, evaluators estimated propensity scores using logistic regression procedures via an SPSS custom dialogue (Thoemmes, 2012). In this process, the study condition served as the outcome variable, and the selected covariates served as predictors to estimate a propensity score for each classroom in the dataset. CCC2NAU students were matched to comparison students using one-to-one, nearest neighbor matching procedures with replacement.

It is important to note that at the start of the evaluation study, CCC did not capture intent of students to transition to a four-year institution (a process that is currently being put into place). Therefore, it is not possible to know whether there was intent to transition among comparison students. However, the matched comparison group serves as a sample of typical community college students at CCC who would be eligible for participation in the program.

Matching Groups Who Transitioned to NAU in Fall 2014

The second set of propensity score matching procedures, which matched transitioned CCC2NAU students to a comparison group who had not participated in CCC2NAU, was important for Outcome Study 2, which was designed to examine outcomes once students had transitioned from the community college to Northern Arizona University. Evaluators obtained data used for matching from NAU's Planning and Institutional Research office (PAIR). PAIR staff

⁵ The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a federal law that protects the privacy of student education records.

replaced identifying information with anonymous ID numbers to protect participant confidentiality. PAIR provided evaluators with a database of students who had transitioned from the CCC2NAU program in the Fall 2014 semester ($n = 84$) and students who had transitioned from an Arizona community college at the same time point and had not participated in any extended campus or 2NAU programs in the state⁶ ($n = 2,040$). Evaluators matched students at NAU on age, Pell recipient status, gender, ethnicity, college of major, and cohort.

Study Timeline

Evaluators began collecting study data in Fall 2012 as grant activities were underway and continued through Spring 2016. In addition to two interim reports, evaluators shared survey findings immediately after administration and analysis so that program planners and staff could have “real-time” data for programmatic improvements. Table D-1 presents the timeline for data collection.

⁶ Other community colleges within the state of Arizona have 2NAU programs; however, they differ in structure from CCC2NAU.

Table D-1. Evaluation Study Timeline

STUDY ACTIVITY	Fall 2012	Spring 2013	Fall 2013	Spring 2014	Fall 2014	Spring 2014	Fall 2015	Spring 2016
Tracking of Fall 2012 CCC2NAU study cohort	◆	◆	◆	◆	◆	◆	◆	◆
Tracking of Fall 2014 NAU study cohort					◆	◆	◆	◆
TAACCCT Outcome tracking	◆	◆	◆	◆	◆	◆	◆	◆
CCC2NAU Student Survey			◆			◆		◆
CCC2NAU participant interviews		◆					◆	◆
CCC and NAU administrator and staff interviews		◆					◆	◆
NAU Advisor interviews						◆		
CCC2NAU advisor interviews		◆		◆				◆
Transitioned student interviews							◆	◆
Transitioned student survey							◆	◆
Online service metrics (Degree Works, Starfish, Marketing)		◆	◆	◆	◆	◆	◆	◆
Peer advising survey				◆	◆	◆	◆	◆
Starfish student survey							◆	
Starfish faculty survey								◆
Business needs survey					◆			
Document review	◆	◆	◆	◆	◆	◆	◆	◆
Business lead interviews								◆
Interim reporting					◆		◆	
Final reporting								◆

Data Analysis

Evaluators used a combination of quantitative and qualitative data analysis techniques to analyze study data. These are presented in the following sections.

Quantitative Analyses

Evaluators entered institutional data and survey data into SPSS 21 for quantitative analyses. Survey data were analyzed using descriptive statistics including frequencies, means, and standard deviations.

To address evaluation questions regarding comparisons of proportions of treatment and comparison students retained at each institution, transitioned to NAU, and attaining degrees at each institution, evaluators calculated the z-ratio for the significance of difference between two independent proportions.

To understand what variables including membership in CCC2NAU might predict whether students transitioned to NAU from the community college, evaluators used logistic regression techniques. Logistic regression allows for the prediction of a discrete outcome, in this case transitioned or not transitioned from a set of variables that may be continuous, discrete dichotomous, or a mix (Tabachnick & Fidell, 2012). Evaluators included the following variables in the model: For quantitative analyses Evaluators consider findings statistically significant using an alpha level of .05.

Qualitative Analyses

Evaluators imported data from interviews, meeting minutes and planning documents into Atlas.ti, qualitative data analysis software that aids in the examination and coding of emergent themes, patterns, commonalities, and differences (Miles & Huberman, 1994). Evaluators then analyzed qualitative data using the techniques of analytic induction (Erickson, 1986). Once evaluators developed assertions about the data, they conducted repeated searches to confirm and disconfirm assertions to provide the warrant for the findings. As negative cases emerged, evaluators refined their hypotheses and assertions related to the data. Evaluators analyzed open-ended responses from surveys through the process of content analysis wherein the researcher searches text for recurring themes (Patton, 2002). Evaluators used member checking with CCC2NAU staff to verify claims in the data.

Evaluators used a combination of literature review, surveys, interviews, document review, and institutional data to answer the evaluation questions. The measures are described in the following section.

Appendix E: Implementation Study Measures

The following measures were used to formatively assess CCC2NAU program strengths and challenges and to understand TAACCCT grant activity implementation, strengths, and challenges.

Review of the Literature

To understand barriers faced by students transitioning from community colleges to four-year institutions and promising practices for supporting transition, evaluators conducted a comprehensive review of the literature on student transition. Evaluators used the literature review to compare CCC2NAU program elements to best practices and to benchmark areas where programmatic improvements might be made. The literature review was attached as an appendix to the first interim report.

CCC2NAU Student Surveys

Evaluators developed the CCC2NAU student survey to gather student feedback on the program including its core components of advising and information sharing. The survey was administered at three time points in the study (Fall 2013, Spring 2015, and Spring 2016) to all active CCC2NAU students. Students responded to questions about why they chose to participate in CCC2NAU and shared information about which program features and benefits they used and valued. The surveys also examined program impacts on students' self-efficacy for achieving their academic goals and on their comfort with the transition to NAU. The surveys contained a combination of Likert-scale and open-ended response items.

Current CCC2NAU Student Interviews

Evaluators interviewed 23 CCC2NAU TAACCCT participants to understand their experiences with participating in the program. Students responded to questions about reasons for participating in CCC2NAU, how well the program is meeting their needs, areas in need of improvement, valued aspects of the program, and challenges and supports to meeting their academic goals. Interviews lasted 25–40 minutes.

CCC and NAU Administrator and Staff Interviews

In Years 1 and 4 of the project, evaluators interviewed 11 individuals associated with the development and implementation of CCC2NAU. Interviewees included the presidents of Coconino Community College and Northern Arizona University, key administrators at both institutions, and current and former advising staff. In the initial interviews, interviewees responded to questions about program history, challenges to program launch and implementation, program strengths, and areas in need of improvement. In the final interviews, administrators and staff also responded to questions about successes and challenges to implementing the components of the TAACCCT grant. Interviews lasted 40-45 minutes.

NAU Advisor Interviews

To understand how advisors at NAU (the receiving institution for CCC2NAU participants) viewed incoming CCC2NAU transfer students in terms of preparedness to transition as well as to gather NAU advisor perceptions of the CCC2NAU program as a whole, evaluators interviewed a total of 17 NAU advisors. Advisors were from the College of Social and Behavioral Sciences, the College of Engineering, Forestry and Natural Sciences (CEFNS), the College of Education, the College of Arts and Letters, and the W.A. Franke College of Business. Evaluators also interviewed an advisor at the Gateway Center who works with undeclared transfer students. Evaluators purposefully sampled advisors within these colleges for interviews because they are the main points of contact to receive CCC2NAU transitioned students within their degree programs. Advisors responded to questions about how well CCC2NAU is doing in supporting students to transition to NAU and how well prepared students are for advising at NAU. Advisors also assessed their collaborations with CCC2NAU staff and indicated areas where the program might improve. Interviews lasted 30–60 minutes.

Business Needs Survey

Evaluators developed a business needs survey to understand how well CCC is meeting local organizations' current and future needs for workforce preparation and how courses and programs at CCC might be improved to better prepare students for employment in the region. Additionally, evaluators asked individuals who hire graduates with Administration of Justice degrees to provide feedback on degree coursework that might lend itself to online delivery. Evaluators sent the survey to individuals who are representative of the Business Advisory Councils for Nursing, Administration of Justice, Allied Health, American Sign Language Interpreting Program, Business, Computer Information Systems, Environmental Studies, Fire Science/Emergency Medical Service, and Construction Management Technology. These individuals collaborate with CCC faculty and staff on course and program design in their fields. The 23-item survey included a combination of fixed-choice, Likert-scale, and open-ended items. A total of 58 individuals representing 49 northern Arizona employers responded to the survey.

Business Advisory Council Lead Interviews

Evaluators interviewed CCC faculty who serve as the leaders for the Business Advisory Councils. Interviewees responded to questions about how they collaborate with business leaders on course design, how feedback is incorporated into program requirements, and how businesses work with CCC to hire graduates. Four council leads responded to a request for an interview. Interviews lasted 20–30 minutes.

Document Review

Evaluators reviewed CCC Business Advisory Council meeting minutes for the grant period from Fall 2012 through Spring 2016. Business Advisory Councils meeting minutes help to understand how business leaders provide feedback on degree and certificate programs at CCC and how information they provide is integrated into program and course design. Evaluators also reviewed meeting minutes and newsletters from the TAACCCT grant committee as well

as updates on TAACCCT grant activity progress. The lead evaluator for the project attended all quarterly CCC TAACCCT committee meetings.

Online Services Metrics

CCC provided ongoing reports of student use of Degree Works, faculty and student use of Starfish, and metrics for G/O Digital search engine marketing tools.

Peer Advising Survey

Evaluators worked with CCC staff to develop a brief 12-item feedback survey for students to complete at the end of a peer advising session. The survey consists of closed response, Likert-scale, and open-ended questions. It asks students to share their reasons for using peer-advising services and to provide feedback on the quality and usefulness of the advising session. Peer advisors administer the survey to students via a link from a tablet before they leave the session. To date, students have completed peer-advising surveys for 290 sessions with peer advisors. Evaluators periodically provided data summaries to the CCC staff member supervising the peer-advising program to inform any modifications to the program.

Peer Advising Staff Survey

Evaluators surveyed CCC advising staff about the peer advising program to understand how they used peer advisors and their perceptions of strengths and challenges to the program. Ten advisors completed surveys in Spring 2016.

Starfish Student Survey

To understand students' level of awareness of the how the Starfish Early Alert system was implemented as part of the TAACCCT grant, evaluators conducted a survey of CCC students in Fall 2015. The survey asked about whether students had heard of or interacted with Starfish, familiarity with its uses, and how they followed up on alerts they had received. The CCC institutional research office sent the survey to current students, and 101 students responded to the survey.

Starfish Faculty Survey

To understand faculty use and perceptions of Starfish, evaluators conducted a survey of CCC faculty. Using a combination of Likert-scale and open-ended items, the survey asked about perceptions of the usefulness of Starfish, barriers to use, and challenges and successes to implementing the program with their students. Of the 181 full- and part-time CCC faculty, 63 responded to the survey.

Appendix F: CCC2NAU Recruitment and Marketing During the TAACCCT Grant Period

Table F-1. CCC2NAU Recruitment and Outreach Events, March 2014 Through June 2016

Type of Booth/ Events	Event	Event Type	Number of Events
High School Outreach	Northland Preparatory Academy, Ponderosa High School, Flagstaff High School, Coconino High School, CCC CAVIAT program, Transformative Learning Center, NAU Upward Bound	Presentation	14
CCC Campus Tours	Seligman High School, River Valley Campus	Tour/Presentation	3
CCC Events	CCC Start Smart Orientation, Native American Visit Day	Tour/Presentation	5
Open Houses/Fairs	CCC Student Services Open House, University College Open House, Flagstaff High School College Night, Resource Fair, Transition Fair, CCC Job Fair, STEM K-20, CCC2NAU Fall Bash, CCC2NAU Spring Social, CCC2NAU at Lunch, Teen Job Fair, ASL Family Fun Day, CCC Faculty Convocation	Booth/Table	44
CCC Recruitment Events	Arizona Indian Education Association Native American Youth Conference, Hopi Community Outreach Events, NSO Tour	Presentation on CCC programs including CCC2NAU	10

Table F-2. Marketing Efforts Funded Through TAACCCT

Product	Dissemination	Number
CCC2NAU Brochures	Distributed at recruitment events and informational event (ongoing)	10,000
CCC2NAU Pocket Folders	Distributed at recruitment events and informational events (ongoing)	10,000
CCC2NAU Flash Drives	Distributed at the HS2CCC High School Counselor event on May 2, 2014 and ongoing	100
Radio Campaigns	Radio campaigns targeting veterans for the veterans student orientation on August 22, 2014	2
Veteran's Postcards	Mailed to a list of veterans in Coconino County encouraging them to attend the veteran's student orientation on August 22, 2014	638
TAACCCT-related articles	CCC STAR newspaper	2

Table F-3. G/O Digital Search Engine Marketing Metrics, July 2015 Through June 2016

Metric	Month					
	Jul 2015	Aug 2015	Sep 2015	Oct 2015	Nov 2015	Dec 2015
Impressions	28,104	25,886	32,559	30,816	33,616	25,217
Clicks	449	492	436	438	447	393
CTR	1.60	1.90	1.34	1.42	1.33	1.56
Metric	Month					
	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	June 2016
Impressions	27,573	29,903	33,226	38,794	38,480	28,114
Clicks	372	368	449	446	436	239
CTR	1.35	1.23	1.35	1.15	1.13	0.85

Appendix G: CCC2NAU Current Student Survey Results

Table G-1. Descriptive Statistics of CCC2NAU Students' Perceptions of the Info Session

	Fall 2013 (N = 185)			Spring 2016 (N = 116)		
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>
The CCC2NAU Info Session helped me understand if I am eligible for CCC2NAU.	184	4.53	0.82	116	3.99	1.17
The CCC2NAU Info Session helped me understand the benefits to participating in CCC2NAU.	184	4.54	0.83	113	4.14	1.10
The CCC2NAU Info Session helped me understand admission requirements to NAU.	184	4.44	0.89	113	3.86	1.23
The CCC2NAU Info Session helped me understand the process of transitioning to NAU.	185	4.35	0.94	112	3.82	1.19
The CCC2NAU Info Session helped me understand the advising services available to me in the CCC2NAU program.	183	4.46	0.90	113	3.97	1.20

Table G-2. Descriptive Statistics of CCC2NAU Students' Perceptions of the Importance of Program Features

	Fall 2013 (N = 200)			Spring 2016 (N = 125)		
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>
Automated transfer of credits between CCC and NAU	200	4.92	0.34	124	4.71	0.78
A customized degree plan at CCC that matches NAU major requirements	199	4.91	0.28	122	4.67	0.72
Tuition savings while at CCC	199	4.87	0.50	122	4.72	0.74
Help with admissions, registration and transition to NAU	199	4.86	0.41	124	4.62	0.81
Ability to register early for NAU classes for the transition semester	199	4.83	0.45	124	4.63	0.76
Advising from staff trained in both CCC and NAU advising	200	4.79	0.53	125	4.26	1.08
Waived application fee to NAU	199	4.74	0.62	123	4.62	0.74
Potential for a CCC or NAU scholarship	199	4.73	0.70	124	4.60	0.82
The ability to dual enroll in classes at NAU	200	4.67	0.66	123	4.50	0.85
Access to NAU Cline library while at CCC	199	4.63	0.71			
Reverse transfer of credit from NAU to complete CCC associate degree	199	4.44	1.01	124	4.22	1.11
Having a free NAU ID card while a CCC student	199	4.43	0.86	123	4.12	1.06
Option to join the NAU Health and Learning Center (recreation center) while at CCC	200	3.96	1.20	122	3.78	1.26
Option to live in an NAU residence hall while at CCC	200	3.50	1.47	124	3.39	1.47
Option to purchase an NAU meal plan while at CCC	199	3.39	1.42	124	3.27	1.35
Access to NAU athletic events while at CCC	200	3.90	1.26	122	3.74	1.32

Table G-3. Descriptive Statistics of CCC2NAU Students' Perceptions of the Advising Team

	Fall 2013 (N = 198)			Spring 2015 (N = 164)			Spring 2016 (N = 120)		
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>
The CCC2NAU advisors are knowledgeable about CCC degree programs.	198	4.64	0.68	164	4.21	1.04	119	4.21	0.98
The CCC2NAU advisors are knowledgeable about the NAU degree programs.	197	4.60	0.73	163	4.07	1.13	120	4.13	1.07
The CCC2NAU advisors have provided useful information about transitioning to NAU.	197	4.61	0.73	164	4.16	1.05	120	4.18	1.13
The CCC2NAU advisors are helping me reach my academic goals.	197	4.58	0.72	163	4.09	1.08	120	4.04	1.11
The CCC2NAU advisors are accessible/available when I need them.	197	4.43	0.84	164	3.85	1.16	120	4.06	1.12
The CCC2NAU advisors are professional.	198	4.69	0.63	-	-	-	120	4.30	0.97
The CCC2NAU advisors are friendly and courteous.	197	4.73	0.60	-	-	-	119	4.38	0.93
The CCC2NAU advisors care about me.	198	4.51	0.80	-	-	-	120	4.00	1.10

Table G-4. Descriptive Statistics of CCC2NAU Students' Satisfaction With Their Experience

	Fall 2013 (N = 197)			Spring 2015 (N = 157)			Spring 2016 (N = 123)		
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>
Advising by CCC2NAU advisors/CCC2NAU Advising	196	4.58	0.68	157	4.15	0.89	123	4.17	1.02
Opportunities to be part of the NAU community	196	4.43	0.78	157	4.00	1.01	123	4.09	0.91
Opportunities to be part of the CCC community	197	4.53	0.70	157	4.23	0.89	123	4.23	0.88
Cost savings at CCC	196	4.71	0.60	157	4.43	0.79	122	4.48	0.85
The availability of CCC classes	196	4.49	0.86	157	4.06	0.98	123	4.31	0.89
The quality of CCC classes	196	4.48	0.83	157	4.13	0.93	122	4.34	0.79
The quality of CCC instructors	196	4.36	0.83	156	4.06	0.90	121	4.22	0.81
The accessibility of CCC instructors	196	4.46	0.75	155	4.12	0.82	123	4.31	0.67
Overall CCC2NAU program	195	4.70	0.61	156	4.35	0.82	122	4.41	0.70

Table G-5. Descriptive Statistics of CCC2NAU Students' Perceptions of the Impact of the Program on Their Upcoming Transition

	Fall 2013 (N = 197)			Spring 2016 (N = 122)		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
Being part of CCC2NAU is helping me feel more connected to NAU while I am still a student at CCC.	197	4.27	0.94	122	3.70	0.98
Being part of CCC2NAU is helping me navigate the process of being admitted to NAU.	196	4.40	0.85	122	3.93	1.06
Being part of CCC2NAU is helping me feel more confident about my upcoming transition to NAU.	197	4.40	0.85	121	3.93	1.01
Being part of CCC2NAU is helping me feel that I will be able to complete a degree at NAU.	197	4.54	0.75	122	4.11	0.91

Appendix H: Transitioned Student Interview Themes

Support for Transitioning (N = 62 Quotes)

The majority of transitioned students stated the CCC2NAU support for transitioning was very helpful. They noted the assistance with paperwork, transferring courses, advising, and personal support as benefits to participating.

“Support with paperwork and transcripts was a benefit. They also supported me personally. I still communicate with a CCC2NAU advisor, and touch base some time. She still cares about my success and how I’m doing on this chapter of my life. That goes a long way with feeling supported.”

“Transition Workshop was helpful. Someone from NAU came to talk about scholarships.”

“The waiving of application fees at NAU [was helpful]. When you are a nontraditional student, little amounts of money help with financial planning.”

CCC2NAU Benefits- Advising (N= 46 Quotes)

Many students remark on the benefit of CCC2NAU advising. With a few exceptions, they noted that advising was targeted to their degree plan at NAU.

“The big thing about CCC2NAU was that they helped me to pick out classes that would transfer over to NAU. I didn’t want to take classes that wouldn’t be transferred. They helped you get credits transferred and get the AA degree. There is someone at the community college who could say ‘This is what you need to do next.’ It was having somebody on the ground that knew where I was headed and how to get there.”

“Being with a CCC2NAU advisor who understands it made the transition a lot easier. It was so smooth.”

“It was a smooth transition, never worried that would miss a semester because my transcripts were in, and paperwork.”

“Advising was really easy to get an appointment. They were really helpful and understood the degree program. I always had good experience.”

“My CCC classes all counted [at NAU]. They transferred well and worked out.”

CCC2NAU Benefits- Other (N= 22 Quotes)

Students also noted the benefits of access to the NAU library, sports events, and scholarships while at CCC. Students benefited from the cost savings at CCC before transitioning and the smaller class sizes.

"Most valuable beside advising, was attending sports events. The opportunities for scholarships was important and I was fortunate to get one."

"I went to lectures [at NAU] a lot and of course the online library access and the library in general [were helpful]."

"The class size at CCC was fantastic—you could generate a relationship with instructors."

Suggestions for Improvement of CCC2NAU (n =72 Quotes)

Students express suggestions for improvement including

- ensuring consistency among CCC2NAU advisors and the information they present;
- information on extracurricular opportunities, such as clubs and internships at NAU while at CCC;
- more communication about veteran and Native American support at NAU;
- tours of NAU campus;
- advice about the workload at NAU, and scholarships;
- information on scholarship and internship opportunities; and
- mentoring with students who have transitioned and face-to-face meetings with new advisors.

"One CCC2NAU advisor thought I needed more classes for my AGECE."

"I ended up taking too many classes in one category and not fulfilling in another; they were AGECE courses but not in the correct distribution."

"CCC2NAU should reach out to the students in nursing to let them know there are scholarships if don't have a break in classes. I had a year break in between. I heard about the scholarships later."

I didn't know about Native American Students Services at NAU while I was at CCC. Encourage Native students to go and visit before they move over."

"Not all the advisors knew a lot about veteran's benefits, to the point of contact at NAU."

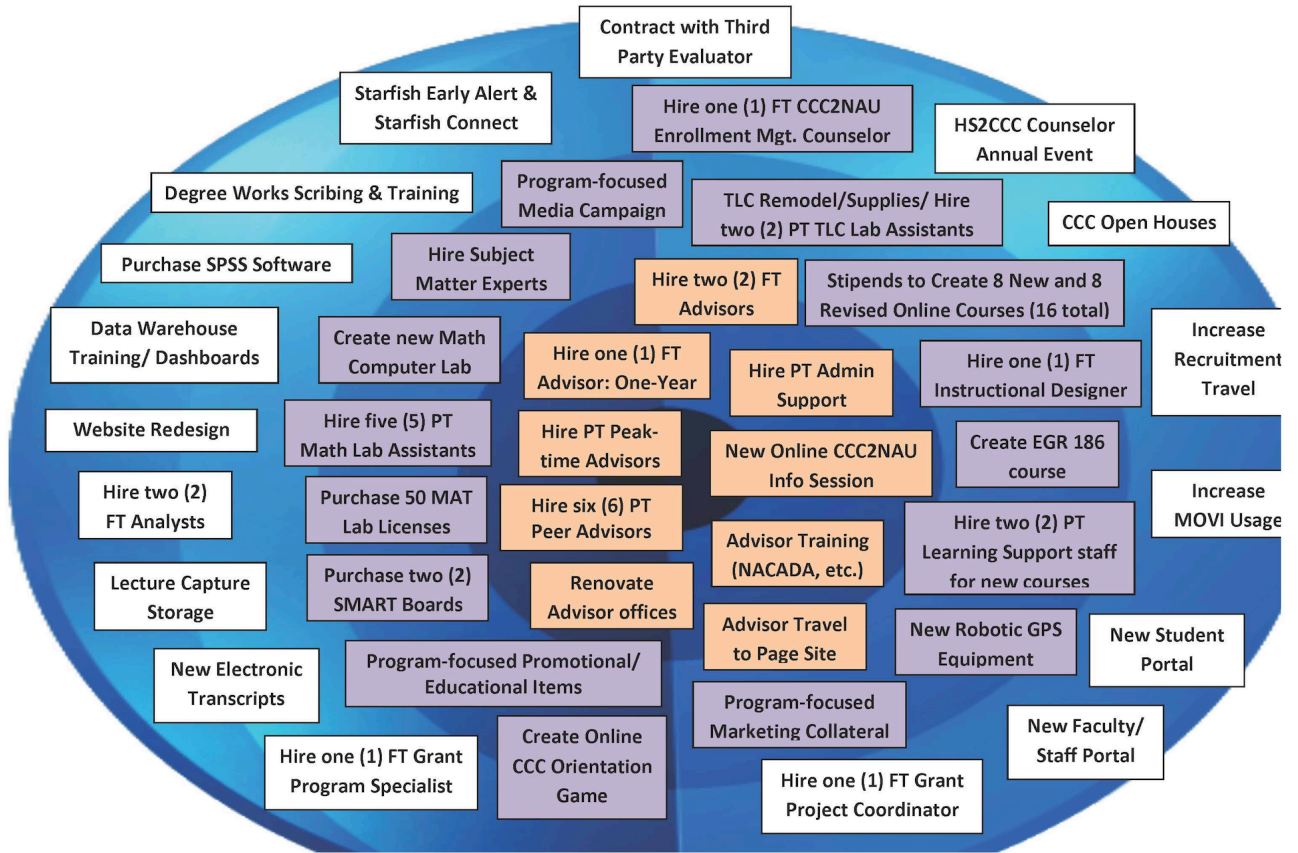
"I wish would have gotten started earlier on internships and research that's needed for the degree."

Appendix I: Starfish Early Alert Usage

Table I-1. Startish Alerts for Fall 2015 Through Spring 2016

Tracking Item Type (total):	Number of Flags Raised
Missing/Late Assignments	488
Initial Attendance Concern	4
Attendance Concern	388
Low Quiz/Test Scores	368
General Academic Concern	260
Three or More Active Flags	188
In Danger of Failing	642
Disability Resources Referral	2
Tutoring Referral	162
Showing Improvement	33
Keep Up the Good Work	2382
Good Participation	128
Outstanding Academic Performance	769
Total Tracking Items for Fall 2015 until 9/30/15	5815

Appendix J: CCC's TAACCCT-Funded Activities



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- This Activity graphic was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.
- This workforce solution received \$2,500,000 (100% of its total cost) from a grant awarded under the Trade Adjustment Assistance Community College and Career Training (TAACCCT) Grants, as implemented by the U.S. Department of Labor's Employment and Training Administration.
- Coconino Community College/CCC2NAU program is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. Deaf/Hard of Hearing dial 711 for relay services and connect to 928-226-4320.

Appendix K: Outcome Study Measures

The following measures were used to summatively assess program impacts on participating students.

Institutional Data

Evaluators examined CCC institutional data related to academic success (GPA and course success rates), retention of students by semester at CCC, and rates of transitioning to NAU for the Fall 2012 cohort of CCC2NAU and a matched comparison group. CCC student data included the Fall 2012 semester through the Spring 2016 semester.

Evaluators examined NAU institutional data for students who transitioned to NAU in Fall 2014 from the CCC2NAU program and for matched nonparticipants. NAU data included data for the Fall 2014 through Spring 2016 semesters.

Transitioned Student Interviews

Evaluators interviewed 21 of the 83 former CCC2NAU students in the final analysis sample who transitioned to NAU in Fall 2014. Interview questions focused on students' reflections of their transition experience, including how well the CCC2NAU program supported them in transitioning, areas of strengths and weaknesses in the program, sources of support at NAU, needs for further support at NAU, and their perceptions of moving from the smaller community college to the larger university environment. Interviews lasted 30–60 minutes.

Transitioned Student Survey

Evaluators conducted a survey of the NAU students in the Outcome Study, including the 83 former CCC2NAU students and 81 nonparticipants. The survey included a mix of Likert-scale and open-ended responses including items related to (a) student satisfaction with their community college experience, including satisfaction with advising services; (b) students' perceptions of the transition process; and (c) postdegree plans.

Appendix L: Outcome Study Student Participants and Group Equivalency

This appendix presents the demographics and group equivalences for Outcomes Study 1 and 2.

Outcome Study 1: CCC Study Demographics

The analysis sample included 424 students, including 212 CCC2NAU participants and 212 CCC nonparticipants. At the start of the study, in Fall 2012, there was a nearly even split between female (50.2%) and male (49.78%) students in the analysis sample. Over half of the students were classified as White (61.6%), 18.2% as American Indian or Alaska Native, 13.0% as Hispanic, 1.7% as Black, 1.2% as Asian, and 0.2% as Pacific Islander. The remaining 4.2% were classified as two or more races, "other," or unreported. Out of the analysis sample, 3.3% of students were veterans, 5.9% were individuals with disabilities registered, and 2.1% were single parents. Out of the 424 students, 4.7% participated in the TRIO program, and 2.4% participated in the Passages program for single parents. During Summer 2012, 59.2% of students were employed, earning an average wage of \$3,118.04, and during Fall 2012, 55.7% were employed, with an average wage of \$3,191.41. Table L-1 shows these demographics disaggregated by group.

Table L-1. Demographics for CCC Students in Outcome Study 1

Characteristics	Non-CCC2NAU Students (N = 212)		CCC2NAU Students (N = 212)		Total Students (N = 424)		Chi-square Results	
	Percent	n	Percent	n	Percent	n	X ² Value	Sig. (alpha = .05)
Gender								
Female	53.3%	113	47.2%	100	50.2%	213	1.36	.24
Male	46.7%	99	52.8%	112	49.8%	211		
Ethnicity/Race							1.64	.80
American Indian or Alaska Native	18.4%	39	17.9%	38	18.2%	77		
Hispanic	12.7%	27	13.2%	28	13.0%	55		
White	61.8%	131	61.3%	130	61.6%	261		
Two or More Races	4.3%	9	2.8%	6	3.5%	15		
Other	2.8%	6	4.7%	10	3.8%	16		
Other/Unreported	0.9%	2	0.5%	1	0.7%	3		
Asian	0.5%	1	1.9%	4	1.2%	5		
Black	1.4%	3	1.9%	4	1.7%	7		
Pacific Islander	0.0%	0	0.5%	1	0.2%	1		
Veteran Status							1.85	.17
Veteran	1.9%	4	4.7%	10	3.3%	14		
Nonveteran	98.1%	208	95.3%	202	96.7%	410		
Individuals with								

Disabilities Registered								
Registered	5.2%	11	6.6%	14	5.9%	25	0.17	.68
Nonregistered	94.8%	201	93.4%	198	94.1%	399		
Passages Program								
Participant	2.4%	5	2.4%	5	2.4%	10	0	1.00
Nonparticipant	97.6%	207	97.6%	207	97.6%	414		
Single Parent*								
Yes	1.9%	4	2.4%	5	2.1%	9	-	-
No	98.1%	208	97.6%	207	97.9%	415		
TRIO Program								
Participant	2.4%	5	7.1%	15	4.7%	20	4.25	.04
Nonparticipant	97.6%	207	92.9%	197	95.3%	404		
Summer 2012 Employment								
Employed	61.8%	131	56.6%	120	59.2%	251	0.98	.32
Unemployed	38.2%	81	43.4%	92	40.8%	173		
Fall 2012 Employment								
Employed	59.0%	125	52.4%	111	55.7%	236	1.62	.20
Unemployed	41.0%	87	47.6%	101	44.3%	188		

*A chi-square test was not conducted for single parents because the sample size was too small.

In Fall 2012, 32.1% of the students in the analysis sample were new to higher education, while 31.8% already had transfer credits (Table L-2). Over half of the students were enrolled full time (64.9%) and 35.1% were enrolled part time in the Fall 2012 semester. Out of the 424 students, 55.0% needed remedial math, 21.2% needed remedial reading, and only 3.5% needed remedial English. Lastly, 43.6% of students were eligible for the Pell grant in the Fall 2012 semester, and 33.0% of students were eligible for the Pell grant in the Spring 2013 semester.

Table L-2. CCC Student Academic Characteristics by Condition for Outcome Study 1

Characteristics	Non-CCC2NAU Students (n = 212)		CCC2NAU Students (n = 212)		Total Students (n = 424)		Chi-square Results	
	Percent	n	Percent	n	Percent	n	X ² Value	Sig. (alpha = .05)
New to Higher Education in Fall 2012								
Yes	33.5%	71	30.7%	65	32.1%	136	0.27	.60
No	66.5%	141	69.3%	147	67.9%	288		
Have Transfer Credits								
Yes	28.8%	61	34.9%	74	31.8%	135	1.56	.21
No	71.2%	151	65.1%	138	68.2%	289		
Fall 2012 Enrollment Status								
Full-time	63.7%	135	66.0%	140	64.9%	275	0.17	.68
Part-time	36.3%	77	34.0%	72	35.1%	149		
Needs Remedial English								
Yes	4.7%	10	2.4%	5	3.5%	15	1.11	.29
No	95.3%	202	97.6%	207	96.5%	409		
Needs Remedial Math								
Yes	51.4%	109	58.5%	124	55.0%	233	1.87	.17
No	48.6%	103	41.5%	88	45.1%	191		
Needs Remedial Reading								
Yes	25.9%	55	16.5%	35	21.2%	90	5.09	.02
No	74.1%	157	83.5%	177	78.8%	334		
Pell Grant Eligibility Fall 2012								
Eligible	42.5%	90	44.8%	95	43.6%	185	0.15	0.70
Non-Eligible	57.6%	122	55.2%	117	56.4%	239		
Pell Grant Eligibility Spring 2013								
Eligible	28.3%	60	37.7%	80	33.0%	140	3.85	.05
Non-Eligible	71.7%	152	62.3%	132	67.0%	284		

CCC Study Group Equivalence

Using chi-square tests, evaluators examined equivalence between study conditions on the characteristics listed in Table L-2. Results showed no statistically significant differences between study conditions for most variables with the exception of a need for remedial reading, and Pell grant eligibility in Spring 2012. More specifically, a higher percentage of nonparticipants

needed remedial reading and a slightly higher percentage of CCC2NAU participants were eligible for the Pell grant in the Spring 2013 term.

Independent samples *t*-tests showed group averages for most variables were not statistically significant, except for cumulative hours and GPA in Fall 2012. More specifically, Nonparticipants had a higher Fall 2012 cumulative average of 22.31 credit hours than CCC2NAU participants at 17.47 credits hours. Nonparticipants also had a higher Fall 2012 GPA.

Table L-3. CCC Student Mean Characteristics by Condition for Outcome Study 1

Characteristics	Non-CCC2NAU Students (n = 212)			CCC2NAU Students (n = 212)			Total Students (n = 424)			Independent Samples t-test Results	
	N	Mean	SD	N	Mean	SD	N	Mean	SD	t Value	Sig. (alpha =.05)
Age at Fall 2012 enrollment	212	22.61	6.39	212	23.05	7.84	424	22.83	7.14	-0.64	.52
Number of transfer credits	61	20.99	13.58	74	17.07	11.54	135	18.84	12.61	1.78	.08
Cumulative Fall 2012 Hours	212	22.31	26.61	212	17.47	20.27	424	19.89	23.75	2.11	.04
Cumulative Fall 2012 GPA	212	1.81	1.49	212	1.30	1.50	424	1.56	1.52	3.49	.00
Summer 2012 Wage Earnings	131	3357.23	2461.43	120	2856.92	2900.57	251	3118.04	2686.62	1.48	.14
Fall 2012 Wage Earnings	125	3330.18	2918.88	111	3035.14	3252.23	236	3191.41	3077.06	0.73	.46

Outcome Study 2: NAU Study Demographics

Of the 164 students who transitioned to NAU in Fall 2014, there were more females (57.9%) than males (42.1%) students in the analysis sample. Over half of the students were classified as White (54.9%), 25.0% as Hispanic or Latino, 14.0% as American Indian or Alaska Native, 0.6% as Black, and 1.2% as Asian. The remaining 4.3% were classified as two or more races, "other," or not specified. Out of the analysis sample, 5.5% of students were veterans. Three quarters of these students were in the upper division (75.6%), and 24.4% transitioned as lower division students. For academic level, nearly half of the students transitioned as juniors (48.2%), followed by 31.1% as sophomores, 12.8% as freshman, and 7.9% as seniors. Out of the 164 students, three quarters had full-time (77.4%) enrollment status, and 22.6% were part time. Additionally, 57.3% received the Pell Grant. Table L-4 shows these demographics disaggregated by group.

Table L-4. Demographics for NAU Students for Outcome Study 2

Characteristics	Non-CCC2NAU Students (N = 81)		CCC2NAU Students (N = 83)		Total Students (N = 164)		Chi-square Results	
	Percent	<i>n</i>	Percent	<i>n</i>	Percent	<i>n</i>	X ² Value	Sig. (alpha = .05)
Gender								
<i>Male</i>	44.4%	36	39.8%	33	42.1%	69	0.20	.65
<i>Female</i>	55.6%	45	60.2%	50	57.9%	95		
Ethnicity/Race								
<i>White</i>	54.3%	44	55.4%	46	54.9%	90	21.42*	.00
<i>American Indian or Alaska Native</i>	3.7%	3	24.1%	20	14.0%	23		
<i>Hispanic or Latino</i>	37.0%	30	13.3%	11	25.0%	41		
<i>Other</i>	4.9%	4	7.2%	6	6.1%	10		
<i>Black/African American</i>	1.2%	1	0.0%	0	0.6%	1		
<i>Asian</i>	0.0%	0	2.4%	2	1.2%	2		
<i>Two or More Races</i>	3.7%	3	2.4%	2	3.1%	5		
<i>Not Specified</i>	0.0%	0	2.4%	2	1.2%	2		
Veteran Status								
<i>Veteran</i>	4.9%	4	6.0%	5	5.5%	9	0.00	1.00
<i>Nonveteran</i>	95.1%	77	94.0%	78	94.5%	155		
Division								
<i>Lower</i>	25.9%	21	22.9%	19	24.4%	40	0.07	.79
<i>Upper</i>	74.1%	60	77.1%	64	75.6%	124		
Academic Level								
<i>Freshman</i>	8.6%	7	16.9%	14	12.8%	21	9.69	.02
<i>Sophomore</i>	23.5%	19	38.6%	32	31.1%	51		
<i>Junior</i>	56.8%	46	39.8%	33	48.2%	79		
<i>Senior</i>	11.1%	9	4.8%	4	7.9%	13		
Enrollment								
<i>Part time</i>	30.9%	25	14.5%	12	22.6%	37	5.41	.02
<i>Full time</i>	69.1%	56	85.5%	71	77.4%	127		
Pell Grant								
<i>Received</i>	56.8%	46	57.8%	48	57.3%	94	0.00	1.00
<i>Not Received</i>	43.2%	35	42.2%	35	42.7%	70		

* Due to small sample sizes, the chi-square test was only conducted with White students, Hispanic or Latino students, and American Indian or Alaska Native students.

Additionally, students had an average age of 25.76 years old. On average, students transitioned into NAU with 67.88 credit hours

Table L-5. Age and Transfer Credits of Transitioned Students for Outcome Study 2

Characteristics	Non-CCC2NAU Students (n = 81)			CCC2NAU Students (n = 83)			Total Students (n = 164)			Independent Samples <i>t</i> -test Results	
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>t</i> Value	Sig. (alpha =.05)
Age	81	25.04	6.78	83	26.46	8.04	164	25.76	7.45	-1.22	0.22
Transfer Credits	81	68.67	26.12	83	67.12	17.32	164	67.88	22.05	0.45	0.65

Using chi-square tests and independent samples *t*-test, evaluators examined equivalence between study conditions on the characteristics listed in Table L-4 and Table L-5. Results showed no statistically significant differences between study conditions for most variables with the exception of academic level, enrollment status, and race/ethnicity. More specifically, a higher percentage of nonparticipants transitioned as juniors (56.8%) than participants who transitioned more evenly as juniors (39.8%) or sophomores (38.6%). Additionally, a higher percentage of participants were enrolled full time (85.5%) than nonparticipants (69.1%). Lastly, due to small sample sizes, the chi-square test for race/ethnicity only included White students, Hispanic or Latino students, and American Indian or Alaska Native students. Results showed that there was a much higher percentage of American Indian or Alaska Native students in the CCC2NAU participant group (24.1%) than the nonparticipant group (3.7%). Conversely, there was a higher percentage of Hispanic or Latino students in the nonparticipant group (37.0%) than the CCC2NAU participant group (13.3%). Slightly over half of the students in each group were White students.

Appendix M: Logistic Regression Results for Transitioning Variables

Table M-1. Logistic Regression Predicting the Likelihood of Transitioning to a Four-Year Institution for All Study Participants

	<i>B</i>	<i>S.E</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Odds Ratio</i>	<i>95.0% C.I. for Odds Ratio Lower</i>	<i>95.0% C.I. for Odds Ratio Upper</i>
CCC2NAU	1.26	0.24	27.72	1	<.001	3.54	2.21	5.66
Gender	-0.12	0.24	0.27	1	.603	0.88	0.56	1.41
Age	0.01	0.02	0.01	1	.709	1.01	0.97	1.04
Race/Ethnicity			6.41	4	.170			
Pell eligible	0.30	0.24	1.49	1	.221	1.35	0.84	2.18
Remedial Math	-0.28	0.24	1.36	1	.244	0.76	0.48	1.21
Cumulative GPA	0.63	0.17	14.65	1	<.001	1.88	1.36	2.60
Completed credit hours	.004	0.01	0.52	1	.469	1.00	0.99	1.02

Table M-2. Logistic Regression Predicting Likelihood of Transitioning for CCC2NAU Students Only

	<i>B</i>	<i>S.E</i>	<i>Wald</i>	<i>df</i>	<i>p</i>	<i>Odds Ratio</i>	<i>95.0% C.I. for Odds Ratio Lower</i>	<i>95.0% C.I. for Odds Ratio Upper</i>
Gender	-0.11	0.32	0.12	1	.728	0.90	0.48	1.66
Age	0.01	0.02	0.06	1	.799	1.06	0.96	1.05
Race/Ethnicity (White)	0.89	.44	4.03	1	.045	2.44	1.02	5.84
Pell eligible	0.75	0.34	5.07	1	.024	2.13	1.10	4.09
Remedial Math	-0.41	0.32	1.71	1	.191	0.66	0.36	1.23
Cumulative GPA	0.66	0.22	9.05	1	.003	1.92	1.26	2.95
Completed credit hours	.006	0.01	0.54	1	.464	1.01	0.99	1.02
TRIO	-.786	0.66	1.40	1	.236	0.46	0.12	1.67

Appendix N: Results of the Transitioned Student Survey

Evaluators conducted a survey of students in Outcome Study 2, including former CCC2NAU participants and comparison students. Due to the low response rates, evaluators did not conduct analyses on these data or include these findings in the report. Key findings are presented here for interested readers.

Table N-1. Descriptive Statistics of NAU Students' Perceptions of Advising at Their Community College Prior to NAU by Condition on a Five-point Scale

	Non-CCC2NAU Students (n = 8)			CCC2NAU Students (n = 20)			Total Students (n =28)		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
My advising experiences while at the community college were positive.	8	4.00	0.93	21	4.43	0.93	29	4.31	0.93
Advisors at the community college helped me to understand the degree requirements for my future degree at NAU.	8	3.50	1.07	21	4.29	0.96	29	4.07	1.03
Advisors at the community college helped me choose classes that would transfer to my intended major at NAU.	8	4.00	0.93	20	4.15	1.18	28	4.11	1.10
I felt supported by the advisors I worked with at my community college.	8	4.00	1.07	21	4.48	0.75	29	4.34	0.86
Advisors at the community college I attended were knowledgeable about degree requirements for my major at NAU.	8	3.75	1.28	21	4.29	0.96	29	4.14	1.06

Table N-2. Descriptive Statistics of NAU Students' Perceptions of Their Transition Experience by Condition on a Five-point Scale

	Non-CCC2NAU Students (n = 10)			CCC2NAU Students (n = 26)			Total Students (n =36)		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
I feel the community college I attended prepared me academically for my degree at NAU.	10	4.30	0.95	26	3.85	1.22	36	3.97	1.16
I understood the requirements of my NAU degree before enrolling at NAU.	10	3.90	1.60	26	3.81	1.17	36	3.83	1.28
It was easy to transfer from the community college environment/culture to the university environment/culture.	10	4.20	0.92	26	3.62	1.27	36	3.78	1.20
When I first started at NAU, it was easy to find my way around campus.	10	3.30	1.25	25	3.52	1.33	35	3.46	1.29
It has been easy adjusting to the academic standards and expectations at the university compared to the community college.	10	4.30	1.25	26	4.04	0.96	36	4.11	1.04
My transition from a community college to NAU went smoothly.	10	4.30	0.95	26	3.92	1.20	36	4.03	1.13
I have been satisfied with my transition experience from the community college to NAU.	10	4.30	0.95	26	3.96	1.31	36	4.06	1.22

Table N-3. Descriptive Statistics of NAU Students' Level of Awareness of NAU Services Before Attending NAU by Condition on a Five-point Scale

	Non-CCC2NAU Students (n = 10)			CCC2NAU Students (n = 26)			Total Students (n = 36)		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
Financial aid opportunities	10	3.20	1.48	26	4.23	0.95	36	3.94	1.19
Scholarship opportunities	10	2.40	1.43	25	3.44	1.26	35	3.14	1.38
NAU clubs and organizations	9	2.11	1.17	26	3.12	1.24	35	2.86	1.29
Degree requirements	10	3.60	1.35	25	4.12	1.05	35	3.97	1.15
Veteran's Services	8	1.38	1.06	20	3.10	1.33	28	2.61	1.47
Native American Student Services	7	1.86	1.46	22	3.50	1.37	29	3.10	1.54
Disabilities services	8	1.63	1.19	23	3.39	1.16	31	2.94	1.39
NAU's Transfer and Commuter Connections	9	2.00	1.50	26	3.69	1.35	35	3.26	1.56

Table N-4. Descriptive Statistics of NAU Students' Perceptions of the Importance of Community College Factors in Transition to NAU by Condition on a Five-point Scale

	Non-CCC2NAU Students (n = 10)			CCC2NAU Students (n = 26)			Total Students (n = 36)		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
Community college instructors	10	8.80	1.99	26	8.15	2.27	36	8.33	2.19
Community college advising staff	10	8.20	2.04	26	8.35	2.24	36	8.31	2.16
Community college career counselor	10	8.20	2.49	25	6.40	3.56	35	6.91	3.36
Community college curriculum (having the classes I needed for my degree)	10	8.90	2.81	26	8.38	2.26	36	8.53	2.40
Nearness of the community college to NAU	10	6.70	3.59	26	6.42	3.16	36	6.50	3.24