Tribal Colleges and Their Impact on Indian Country

Cankdeska Cikana Community College (CCCC)

A Case Study

Prepared by
ROI Institute, Inc.
www.roiinstitute.net

ROI INSTITUTE®

Cankdeska Cikana Community College
214 First Avenue
Fort Totten, ND 58335

About American Indian College Fund

Founded in 1989, the American Indian College Fund has been the nation's largest nonprofit organization supporting American Indian and Alaska Native (AIAN) students' access to higher education.

About Tribal Colleges and Universities

For nearly 50 years, Tribal Colleges and Universities (TCUs) have provided a path for AIAN students to access higher education and the opportunities it provides. TCUs allow AIAN students to take the first steps towards earning a degree on, or near, the reservation communities they call home. In addition to receiving an accredited higher education, students thrive in a learning environment in which the culture, traditions, and experiences of Indigenous people are woven into the DNA of the institutions—providing a space for them to learn and be understood.

In order to assure the sustainability of TCUs, the American Indian College Fund has embarked on a project to determine the impact and return on investment of its partner colleges, which includes Cankdeska Cikana Community College (CCCC).

About Cankdeska Cikana Community College

The mission of CCCC is to provide opportunities that lead to student independence and self-sufficiency through academic achievement and continuation of the Spirit Lake Dakota language and culture. CCCC is a TCU located in Fort Totten, North Dakota. CCCC was established in 1974 as a community college by the Spirit Lake Dakota Nation. Currently, CCCC offers the following types and numbers of degree programs:

- Associate of Arts (AA) – 5
- Associate of Science (AS) – 4
- Associate of Applied Science (AAS) – 2
- Vocational Certificates – 3

CCCC comprises 168 employees, 24 of which are faculty. The school offers a student-to-faculty ratio of 5 to 1. Students attending CCCC students range in age from less than 18 years old (37%) to over 65 years old (5%).

About ROI Institute®

ROI Institute, Inc., founded in 1992, helps organizations evaluate the success of projects and programs, including measuring the financial return on investment (ROI). Serving for-profit, nonprofit, government, and nongovernmental organizations, ROI Institute's work includes workshops, consulting, coaching, research, and publications. It operates through a network of more than 100 partners and associates in the U.S. and in more than 70 countries ROI Institute, ROI Methodology, ROI Certification, and Certified ROI Professional are registered trademarks owned by ROI Institute, Inc.

For more information, visit: www.roiinstitute.net.

Authors and Contributors

- Patti P. Phillips, Ph.D., Chief Executive Officer, ROI Institute, Inc.
- Damien Sanchez, Ph.D., Senior Consultant and Research Analyst, ROI Institute, Inc.
- Kylie McLeod, Director of Research and Communications, ROI Institute, Inc.
- Melissa Brown, Director of Partnerships and Special Projects, ROI Institute, Inc.
- Jen Janecek-Hartman, Ph.D., Executive Director, North Dakota Association of Tribal Colleges

Tribal Colleges and Their Impact on Indian Country

Cankdeska Cikana Community College (CCCC)

RESEARCH REPORT
ROI Institute, Inc.

Table of Contents

List of Tables

List of Figures

Foreword

The North Dakota Tribal College ROI project had its start in the early 2000s. I was a newly minted program director for United Tribes Technical College's Tribal College (UTTC) and University Program through the National Science Foundation. At my first midpoint evaluation, a member of the evaluation team asked me the following question: "We have given you $2 million dollars and you only have two graduates to show for our investment. Why should we continue to fund you?" I was taken aback; this was one question that I did not expect. I thought for a moment and responded that success wasn't only measured in the number of graduates, but the way that the program had changed the landscape of STEM education at UTTC and changed the lives of the program participants. The evaluator then pushed me to explain myself. I stated that our graduates many times are the first person in their family to go to college. They represent families, extended families, and communities that are enhanced by the students attending and completing college. We went on to complete the evaluation and passed with flying colors.

However, the question of how to prove return on investment continued to percolate in my mind. I was also completing my Ph.D. program during this time. We had to study evaluation models for education in one of my classes. At this time, I was introduced to several models, one of which was the Phillips Return on Investment Model. I must admit the model really made sense to this non-business minded STEM program director. As luck would have it, or as spirits guide things, I received a flyer in the mail about ROI training. A colleague and I signed up to attend the class, and there I met Dr. Patti Phillips. During the training, I asked to visit with her about my idea for using their ROI model for evaluating programs at a Tribal College. I stated that I wanted a way to honor the local tribal values within the framework. She gave me some great ideas and agreed to serve on my dissertation committee as the content expert.

I spent the next 18 months gathering ideas, values, and perspectives through talking circles at UTTC. The participants were students, faculty, staff, and administrators, along with several alumni. We created a Tribal ROI conceptual framework through this process. Several of the Phillips' levels of evaluation were changed to more closely reflect the TCU values. In 2007, my committee approved the framework and the dissertation. In 2008, Patti and Jack nominated my dissertation for the ROI Research Award, awarded to an outstanding ROI research dissertation.

Life went on and, in 2016, I was approached by Cheryl Crazy Bull for a copy of my dissertation. She was looking at models of evaluation for tribal colleges and universities. In 2017, the American Indian College Fund, through the work of Dr. David Sanders, was awarded a Strada Network Education Grant to take the conceptual TCU ROI framework that I had developed for my dissertation and bring it to life for use with the North Dakota Association of Tribal Colleges. The following TCUs agreed to be part of the study: Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Sitting Bull College, Turtle Mountain Community College, and United Tribes Technical College. Each institution provided information about numbers of

students, student satisfaction, learning, experiential learning, traditional and contemporary American Indian cultural values, impact on Indian Country, ROI, and intangibles. The data were gathered through records, talking circles, and individual interviews.

I am so excited for you to see what great things our Tribal Colleges and Universities do each and every day, and the return on investment for monies spent is well worth it. It is every Ph.D. candidate's dream to see their work come to life. Thank you, American Indian College Fund, Dr. Patti Phillips, and the NDATC presidents for seeing the value in showing our value.

Jennifer Janecek-Hartman, Ph.D.
Executive Director
North Dakota Association of Tribal Colleges
Bismarck, North Dakota

Executive Summary

For nearly 50 years, Tribal Colleges and Universities (TCUs) have provided a pathway for American Indian Alaska Native (AIAN) students to access higher education and the opportunities it provides. TCUs allow AIAN students to take their first steps toward earning a degree on or near the reservation communities they call home. In addition to receiving an accredited higher education, students thrive in a learning environment in which the culture, traditions, and experiences of Indigenous people are woven into the DNA of the institutions, providing a space for them to learn and be understood.

The American Indian College Fund and participating Tribal Colleges and Universities located in North Dakota want to better understand institutional outcomes and how these outcomes reflect the return on investment (ROI) in these institutions. Additionally, the American Indian College Fund wanted to test the efficacy of the Tribal College University ROI Process, an adaptation of ROI Institute's framework and ROI Methodology®. These efforts were funded by a Strada Network Education Grant. In 2018, ROI Institute was given the opportunity to develop case studies for five tribal colleges.

The research comprises five case studies describing the first application of the TCU-ROI Conceptual Framework and outcomes associated with Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Sitting Bull College, Turtle Mountain Community College, and United Tribes Technical College. The focus of this study is on outcomes associated with the 2017-2018 school year and students who graduated during Spring and Summer 2018. Jobs and the associated income serve as the basis for monetary benefits due to their availability. A one-year operating budget serves as the investment. Results in this report represent those from Cankdeska Cikana Community College. Below are the key findings.

- Approximately 242 students were enrolled during Fall 2017.
- 220 (91%) students registered in 2017 were classified as AIAN.
- Students indicated they were very satisfied with their courses and the school. When asking students in the Spring 2018 class if they had to do it all over, would they enroll at CCCC again, the score was a 6.36 out of 7. When responding to the question asking if their college experiences had met their expectations thus far, students replied with a 5.44 out of 7.
- 62% percent of students passed courses during the 2017-2018 school year with an A, B, or C. 38% received failing grades. When compared to other North Dakota Tribal Colleges (average 23.28%), the failure percentage is high. According to the talking circle participants, the faculty and administrators work closely with students to succeed; but they don't make the courses easy.
- Students learn traditional and contemporary American Indian cultural values. They give back to the community and support others as they try to progress. They have a keener sense of responsibility since graduating. The community is tight knit, so much so that some graduates said it makes it difficult to transition out later.

- Application of knowledge acquisition occurs through experiential learning, internships, and particularly on the job. Graduates apply knowledge and skills within the community and, in some cases, help neighbors save money while saving money themselves.
- 17 students graduated between Summer 2017 and Summer 2018.
- 6 (35%) students attained jobs upon graduation. Data indicated that the graduates likely retained those jobs for three quarters of one year. Jobs were not reported for CCCC graduates during the fourth quarter.
- The average annual income for the CCCC 2017-2018 cohort was $30,042.68. This figure is also $14,962.68 more than the average income of AIAN high school graduate.
- Graduates of the 2017-2018 cohort invested an average of $6,803 per person each year to obtain their degree.
- The payback period for the investment in CCCC is 2.13 years assuming based on the first-year wages of 6 out of 17 (35%) graduates who attain and retain jobs one year after graduation and one-year operating cost.
- Graduates are giving back to the community. They are applying skills to help neighbors save money while saving money themselves. They are becoming employees of the college, avoiding an investment in recruiting and training. They are growing the network and teaching others the American Indian culture and value system.

Introduction

Background

Measurement systems that focus on the success of colleges and universities are changing. This shift from measuring inputs and activities to outcomes is being made as a result of higher education. Table 1 compares the traditional versus the emerging measures of higher education success.

Table 1. Traditional and Emerging Ways of Evaluating Success

Traditional	Emerging
• Enrollment	• Graduate Rates
• Number of Courses Taken	• Time to Graduate
• Grades	• Placement Rates
• Diversity of Programs	• Student Success
• Quality of Faculty	• Real Work Experiences
• Investment in Facilities	• ROI in Degree Programs
• Student Activities	• Student Debt Load
• Student Satisfaction with Experience	• Student Career Satisfaction
• Reputation of College or University	• Donations

Source: Phillips and Phillips, 2019, p. 94.

The emergence of new measures has never been as important to the Tribal College and University community as it is today. Tribal Colleges and Universities were created in response to the higher education needs of American Indians. They generally serve geographically isolated populations that have no other means of accessing education beyond the high school level. TCUs have become essential to educational opportunity for American Indian students (American Indian Higher Education Consortium, 1999; p. A-1). In recent years, however, they have been criticized for failure to produce results relative to the cost associated with their existence (Butrymowicz, 2014).

Tribal Colleges are funded primarily through Title III of the Higher Education Act. This act is administered by the U.S. Department of Education and the Tribally Controlled College or University Assistance Act of 1978, which is administered by the U.S. Bureau of Indian Affairs (Fact Sheets, 2017). Additionally, the American Indian College Fund (2018b) states that their mission is to invest "in Native students and tribal college education to transform lives and communities" (American Indian College Fund, 2018b; p. 2). Currently, 14% of all Native people have college degrees as compared to approximately 34% of the US population (Statista, 2018). By 2020, an estimated 67% of job openings will require postsecondary education or training; 35% will require a bachelor's degree (Carnevale, et al, 2019a). Even manufacturing jobs, in which high school graduates have flourished in the past, while fewer in numbers, now require a

higher level of education (Carnevale, et al, 2019a). These factors, coupled with the disparity that exists between academic opportunity for the affluent and that for the less affluent (Carnevale, et al, 2019b) leave Native Americans at a disadvantage. The American Indian College Fund seeks to address this gap (American Indian College Fund, 2018c).

Life on the Reservation: 2013-2017 Average Key Statistics Compared to US Benchmarks

Reservation communities are of the least developed in the US. Fort Berthold Reservation, home of the Mandan, Hidatsa, and Arikara Nation, the Three Affiliated Tribes, has the lowest unemployment rate of the five under study and just above that of the US. Performance in household income is strongest for Fort Berthold Reservation due to the recent windfall in the oil industry and surrounding areas. In all cases performance with unemployment and poverty does not meet that of the US overall.

	Unemployment Rate	Median Household Income	Poverty Rate
Fort Berthold	7.35%	$ 63,093.00*	20.60%
Spirit Lake	9.65%	$ 31,875.00	45.87%
Turtle Mountain	8.97%	$ 28,688.00	37.10%
Standing Rock	24%	$ 36,406.00	42.30%
United States	**6.55%**	**$ 57,652.00**	**14.60%**

* Figure influenced by the recent windfall in the oil industry in the surrounding area

Sources: (Center for Indian Country Development, 2019)

Figure 1 shows the distribution of students enrolled in 2016 across all 35 TCUs. It also compares the number of AIAN students to non-AIAN students enrolled. The total enrollment in the 35 TCUs is 16,857 students of which 13,163 students are AIANs students or 78.1%. The high AIAN enrollment numbers are evidence that these institutions are highly visible and important to AIANs earning postsecondary degrees.

In order to close the gap between Native Americans with and without degrees, it is vital to support tribal colleges because they are the first education option for Native students. The American Indian College Fund contributed a grant of $233,437 to CCCC to help achieve this goal (American Indian College Fund, 2018a).

Because of the nature of their funding stream, however, TCU resources are at risk (Janecek-Hartman, 2007); therefore, demonstrating the benefits of investing in TCUs is important, as is focusing on emerging outcomes. While success can be defined in different ways, the ultimate value for investing in TCUs is the impact they have on the Indian Nation itself. This impact influences the sustainability of the citizens of the nation. This study attempts to describe that impact by balancing metrics and money with the voices of those who benefit the most.

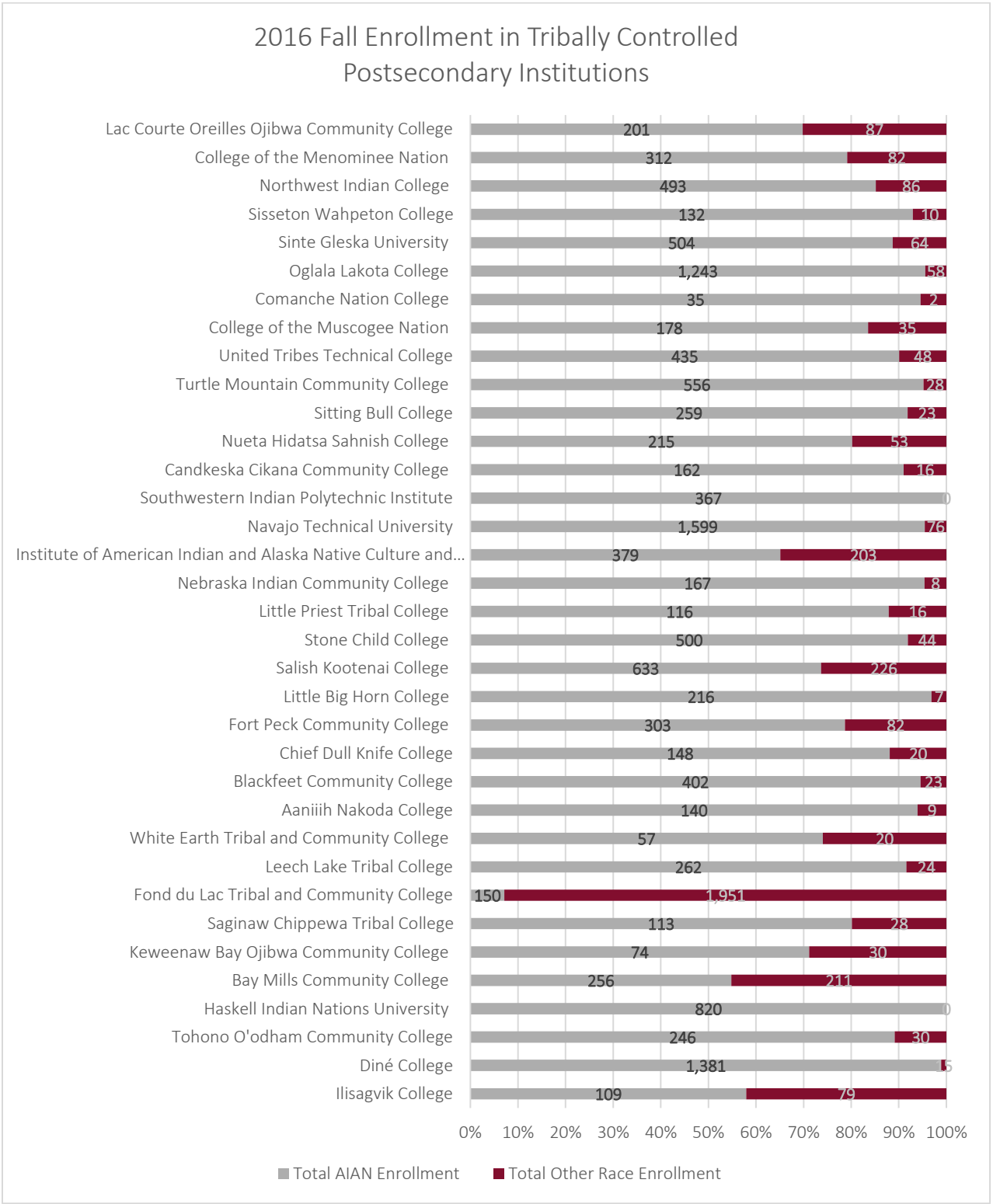


Figure 1. 2016 Fall Enrollment in Tribally Controlled Postsecondary Institutions (U.S. Department of Education, 2017)

Research Objectives

There are two purposes for this research. First, the research is intended to describe the impact tribal colleges have on the Indian Nation as defined by graduates and their earnings upon graduation. Second, the research is a pilot project to demonstrate the efficacy of the Tribal College and University (TCU) Return on Investment (ROI) Conceptual Model. Research objectives include:

1. Determine the institutional return on investment outcomes based on wage earnings and employment for the five (5) North Dakota Tribal Colleges. These five institutions are: Cankdeska Cikana Community College, Nueta Hidatsa Sahnish College, Sitting Bull College, Turtle Mountain Community College, and United Tribes Technical College.

2. Describe outcomes categorized based on the TCU-ROI Conceptual Model for the five (5) participating North Dakota Tribal Colleges. This framework categorizes data as:

    - Indian Student Count
    - Student Reaction and Satisfaction
    - Student Learning and Traditional and Contemporary American Indian Cultural Values
    - Experiential Learning and Internships
    - Impact on Indian Country
    - Return on Investment
    - Intangible Benefits

Stakeholders

The results of this evaluation are important to a wide variety of internal and external stakeholders who are critical to supporting Tribal Colleges and AIAN students. Stakeholders for this project are:

- Internal
    - American Indian College Fund Office of Research and Sponsored Programs
    - CCCC Staff and Administrators
    - CCCC Faculty
    - CCCC Students
- External
    - Spirit Lake Dakota Nation Tribal Members
    - Tribal Colleges and Universities
    - AIAN Students
    - Tribal Governments
    - College Preparation Programs (like Upward Bound)
    - Employers

Research Methodology

A Comprehensive Approach

The ROI Methodology® is a comprehensive approach to evaluating programs, projects, and initiatives. Developed in 1973 by Dr. Jack J. Phillips, it is applied in nonprofit, nongovernmental, government, and for-profit organizations located in more than 70 countries (Phillips & Phillips, 2019). Application of the ROI Methodology spans a variety of types of programs and projects, including those associated with higher education institutions. Projects evaluated using the ROI Methodology from higher education include, but are not limited to, faculty development, apprenticeship programs, process improvement initiatives, and student advisement. Its use is expansive because it:

- reports a balanced set of measures;
- follows a methodical, step-by-step process;
- adheres to standards and philosophy of maintaining a conservative approach and credible outcomes; and
- places focus on process improvement.

Three components help ensure data captured through the process are credible, reliable, and useful to those who apply it. Those components are the framework, process model, and standards. While the ROI Methodology has been applied to some higher education programs, it has not been applied at the overall institutional level of higher education organizations, particularly that of TCUs.

Janecek-Hartman (2007) adapted the three components of the ROI Methodology to reflect the norms and practices of the Native American community. The research funded by Strada Network Education through the American Indian College Fund is the first application of the Tribal College and University ROI Conceptual Model.

Framework

Framework is fundamental to the research methodology. It represents a method that allows organizations to logically categorize data so that a theory of change is evident as participants engage in programs, courses, and processes.

Table 2 presents the ROI Methodology framework of data. Level 0 represents the investment in programs, courses, and other activities. Level 1, Reaction, represents outcomes from the participant or student perspective. Measures in this level indicate that the content presented is relevant and important and that participants are committed to applying it. They may also indicate satisfaction with delivery of that content and how improvements can be made in the

delivery. Level 2, Learning, categorizes learning outcomes and can be measured by test scores, demonstrations, simulations, observations, case studies, and other less formal processes.

Level 3, Application, data represent actual use of knowledge, skill, and information gained through a program. Level 4, Impact, data represent the consequence of that application. These measures may indicate improvement in output, quality, cost, or time as well as improvement in stakeholder satisfaction, innovation, or work habits. Level 4 measures may also include gains in funding, employment, community economic development, and other outcomes that results from the application of new knowledge, skill, and information. Level 5, Return on Investment (ROI), compares the monetary benefits of improving Level 4 measures to the cost of the program, course, or process in question. The ROI formula is a standard financial equation developed through finance and economics, as shown in Figure 2. The most fundamental indicators of return on investment are the benefit-cost ratio (BCR) and the ROI percentage. These metrics are useful in evaluating any type of program.

Table 2. Framework of Data Representing Theory of Change

Level	Measurement Focus
0 Input	Investments, activities, and outputs from a program, initiative, or other activity.
1 Reaction and Planned Action	Measures participant satisfaction with the program and captures planned action.
2 Learning	Measures changes in knowledge, skills, information, and attitudes.
3 Application and Implementation	Measures changes in behavior and performance.
4 Impact	Measures changes in impact measures.
5 Return on Investment (ROI)	Compares the monetary benefits to the costs.

$$\text{BCR} = \frac{\text{Monetary Benefits}}{\text{Costs}}$$

$$\text{ROI (\%)} = \frac{\text{Net Monetary Benefits}}{\text{Costs}} \times 100$$

$$\text{Payback Period} = \frac{\text{Costs}}{\text{Monetary Benefits}}$$

Figure 2. ROI Formulas

ROI measures the efficiency of an investment or how efficient one investment compares to another.

Using participatory-based research, Janecek-Hartman (2007) worked with various stakeholders to modify the ROI Methodology framework for use in evaluating TCUs and their impact on Indian Country. This would ensure AIAN value systems drive the success indicators in the TCU-ROI Conceptual Model. Table 3 presents the TCU-ROI Conceptual Framework and key questions asked at each level.

Table 3. TCU-ROI Conceptual Framework

Category	Key Questions
Counts	How many participants enter or utilize the program? How many participants are served or complete the program? Success rates?
Student Satisfaction	What relevance does the program have to job or mission? What is the importance of the program to job or mission? What new information was provided? Do participants intend to use the new information? Do participants recommend program to others? What are recommendations for program improvement? What opportunities for collegial discussions exist?
Student Learning	Have participants acquired new skill or knowledge? Do they know how to apply what they have learned? What is the confidence level in their ability to apply what they have learned?
Traditional and Contemporary American Indian Cultural Values	How long does the program contribute to lifelong learning? How does the program promote the participant to give back to the community? How does the program promote the participants to take calculated risks? How does the program contribute to the participants' spiritual growth? How does the program contribute to the participant's understanding of what it means to be American Indian? How does the program promote a sense of volunteerism? How does the program promote a value of humility? How does the program promote respect for connectedness to the land? How does the program contribute to the development of an attitude of respect for diversity? How does the program contribute to the understanding of Tribal Sovereignty? How does the program help participants build collegial relationships? How does the program engage participants in leadership activities? How does the program promote the development of traditional tribal and contemporary leadership attributes? How does the program support the concept of participant wellness?
Experiential Learning and Internships	How effective are participants at applying what they have learned? How frequently are participants applying what they have learned? If they are applying what they have learned, what is supporting them? If not, why not and what are the barriers?

Impact on Indian County	To what extent did the program contribute to the individual's success? To what extent did the program contribute to the organization's success? To what extent did the program contribute to the community's success? To what extent did the application improve the measures the program was intending to improve? How did the program affect output (i.e. quality, time, cost, customer satisfaction, employee satisfaction) and other measures? How do you know it was the program that improved these measures? How does the program enhance the quality of life for participants?
ROI	Do the monetary benefits of the program outweigh the costs of the programs?
Intangibles	Benefits that the institution has chosen not to attach a dollar value.

Table 4 compares the ROI Methodology framework of data with the TCU-ROI Conceptual Model categories.

Table 4. Evaluation Framework Comparison

ROI Methodology Framework (Mainstream)	**TCU-ROI Conceptual Model Categories (Indian Country)**
0 Inputs	Indian Student Count
1 Reaction and Planned Action	Student Reaction and Satisfaction
2 Learning	Student Learning
	Traditional and Contemporary American Indian Cultural Values
3 Application and Implementation	Experiential Learning and Internships
4 Impact	Impact on Indian Country
5 Return on Investment (ROI)	Return on Investment
*Intangible are included in Level 4 Impact	Intangible Benefits

There are several similarities between the two models, including Level 1, Level 2, and Level 5. Differences include incorporating the count of AIAN students attending the institution being evaluated at Level 0, focusing on cultural values and experiential learning at Levels 2 and 3, and placing focus on Indian Country at Level 4. In both frameworks, intangible benefits are defined as those measures not converted to money. The ROI Methodology framework includes intangibles at Level 4 Impact but, when reporting ROI, it also requires that the intangibles be highlighted. The TCU-ROI framework categorizes intangibles separate and apart from Impact on Indian Country. "The principal difference between the ROI Methodology framework and the TCU-ROI Conceptual Model is the embedded and overarching importance of traditional and contemporary American Indian cultural values" (Janecek-Hartman, 2007, p. 107). The TCU-ROI Conceptual Model helps to assure AIAN cultural values are at the heart of the evaluative process.

Process Model

The ROI Methodology process model, shown in Figure 3, provides step-by-step guidance for the researcher. This process simplifies what is otherwise a complex process by moving sequentially from evaluation planning, to data collection, to data analysis, and, lastly, reporting and data optimization. The ROI Methodology begins with the foundational blocks of clarifying the organization, community, and/or individual needs that align with the framework of data. Further analysis helps determine the best solution for those needs. Program objectives are developed, which, ideally, serve as the blueprint for program or project design, as well as evaluation.

When the foundation has been laid, the evaluation plan can be developed and approved. After the planning is complete, the data collection for the evaluation begins. Data collection occurs at various points in the program's lifecycle (e.g. before, during, and after). With data in hand, the evaluation proceeds to data analysis. The data analysis steps are important because they allow the researcher to determine whether the changes in key business metrics are attributable to the program or project under investigation. The process concludes with data reporting and optimization. The last step in the process, optimization, is one of the most critical in that it comprises execution of strategies to improve programs and projects based on results.

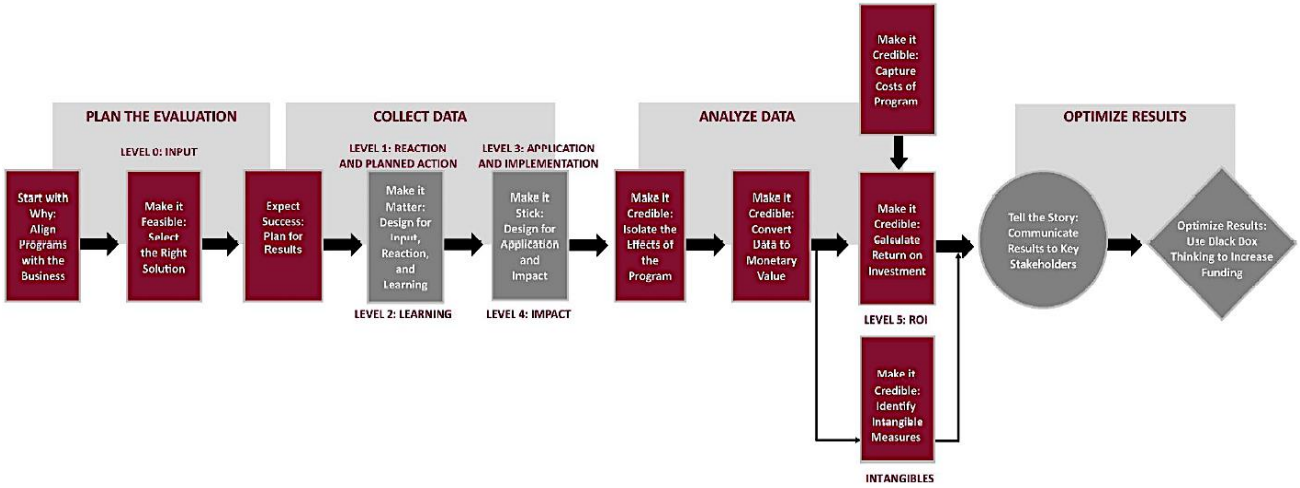


Figure 3. ROI Methodology Process Model

This linear design of the ROI Methodology was modified as part of the development of the TCU-ROI Conceptual Model to reflect a more cyclical process. Figure 4 illustrates the elements of the TCU-ROI Conceptual Model and how they interact with one another.

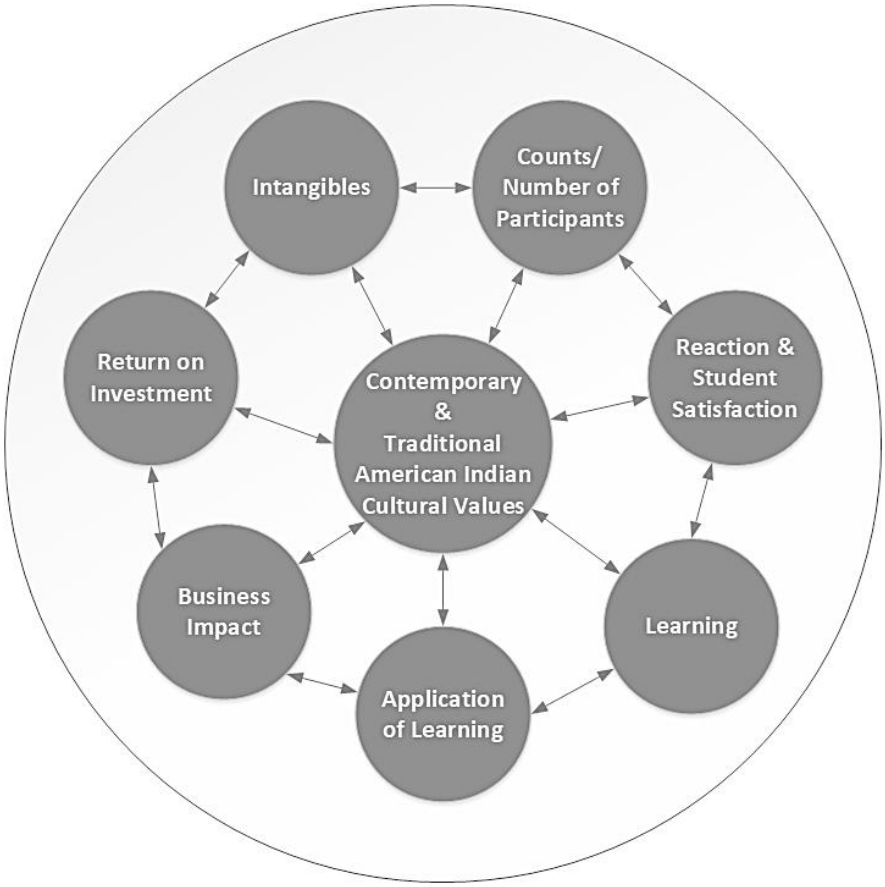


Figure 4. TCU-ROI Conceptual Model, adapted from Janecek-Hartman, 2007

The TCU-ROI Conceptual Model is centered around contemporary and traditional American Indian cultural values. This category is interconnected with all the other data collection categories. The TCU-ROI Conceptual Model ultimately adheres to the same primary steps that are included in the ROI Methodology (see Figure 3), but it is driven by cultural values and is more fluid.

The process begins with evaluation planning and the establishment of overall goals for all levels of the evaluation. Next, Level 0 data is reported as the aggregate number of AIAN students enrolled in the TCU. This aligns with the way most Federal programs judge success. Data collection starting with Level 1 data regarding student satisfaction is next. Allowing the students to assert their own opinions reflects the cultural value of personal sovereignty. Learning is at Level 2 and was included from the ROI Methodology because building knowledge is a key objective of TCUs. Application via experiential learning is at Level 3 and reflects cultural values because, as graduates start to apply their new knowledge in their communities, Indian Country starts to benefit. Level 4 data reflects impact not on a business but, instead, on the individual, institution, family, and community. The TCU-ROI Conceptual Model concludes with data analysis, including effect isolation and the familiar benefit cost ratio (BCR) and ROI calculations

from the ROI Methodology. This evaluation will adhere to the steps and data collection categories of the TCU-ROI Conceptual Model.

Standards and Guiding Principles

Guiding Principles, or standards, are used throughout the lifecycle of the evaluation and provide an additional level of standardization leading to credible, reliable output. The ROI Methodology 12 Guiding Principles were used to guide the evaluation process. Table 5 presents the Guiding Principles that support the ROI Methodology.

Table 5. ROI Methodology Guiding Principles

1.	When conducting a higher-level evaluation, collect data at lower levels.
2.	When planning a higher-level evaluation, the previous level of evaluation is not required to be comprehensive.
3.	When collecting and analyzing data, use only the most credible sources.
4.	When analyzing data, select the most conservative alternative for calculations.
5.	Use at least one method to isolate the effects of a project.
6.	If no improvement data are available for a population or from a specific source, assume that little or no improvement has occurred.
7.	Adjust estimates of improvement for potential errors of estimation.
8.	Avoid use of extreme data items and unsupported claims when calculating ROI.
9.	Use only the first year of annual benefits in ROI analysis of short-term solutions.
10.	Fully load all costs of a solution, project, or program when analyzing ROI.
11.	Intangible measures are defined as measures that are purposely not converted to monetary values.
12.	Communicate the results of ROI Methodology to all key stakeholders.

Janecek-Hartman (2007) proposed two additional guiding principles to assure the credibility of conducting an ROI evaluation in Indian Country:

1. Ensure the culture of the community is always considered.
2. Ensure the TCU-ROI process is participatory in nature.

Further details regarding how the ROI Methodology Guiding Principles were applied will be discussed more fully in the appropriate sections later in this report.

Data Collection Procedures

Data collection comprises clarification of objectives and measures, data collection methods and instruments, data sources, and timing for data collection.

Objectives and Measures

Objectives and measures are the basis for data collection. They describe the type of data to be collected and targets for success. Ideally, these objectives evolve from a comprehensive needs assessment which includes categories of needs or goals reflective of the data categories assigned in the framework. Figure 5 is the alignment model that supports the development of objectives and measures.

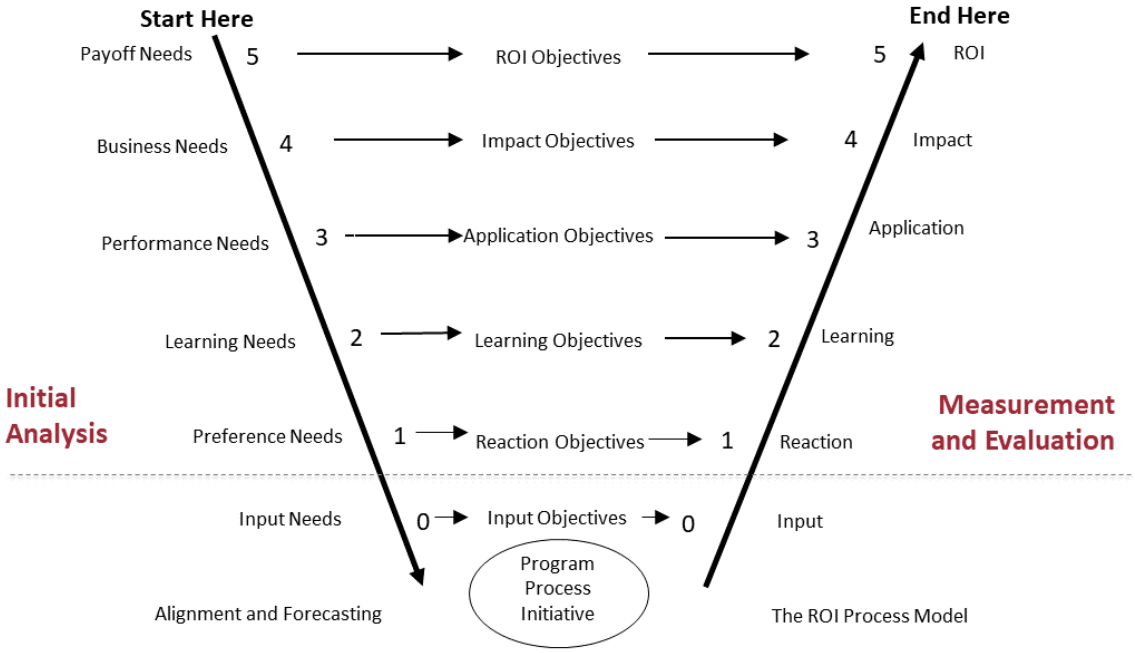


Figure 5. ROI Methodology Alignment Model @Copyright 1994-2019 ROI Institute, Inc.

The payoff need for TCUs is sustainability of the Indian Nation, as well as the growth and well-being of the tribe and its members. Specific business needs or impact needs focus on contribution to Indian Country as indicated by jobs and income among other measures that, if improved, will lead to sustainability and well-being. Performance needs are those actions, activities, processes, and projects that, if changed, will address the business/impact needs. From there, solutions (e.g. courses, technology, projects) are identified, followed by learning needs, which indicate what people need to know to make the solution work. Preference needs reflect how best to present or implement a program, project, or initiative. Input, activity, and output needs represent the resources required to make the program work.

After the needs are clarified, the specific, measurable objectives are developed. While there are many needs that a TCU can address and the objectives are numerous, this study focused specifically on the following measures:

- Indian Student Count
    - Number FTE enrolled
    - Number of graduates
    - Demographics of graduates
- Student Reaction and Satisfaction
    - Institutional Performance (6.0/7.0)
    - Class Satisfaction (6.0/7.0)
    - Overall perception of attending TCU
- Student Learning and Traditional and Contemporary American Indian Cultural Values
    - Self-report measures of learning
    - Grades overall
    - Grades by division
    - Overall perception of learning acquisition by attending TCU
- Experiential Learning and Internships
    - Specific examples of application
    - Overall perception of experiential learning opportunities
    - Use of knowledge, skills acquired on the job
- Impact on Indian Country
    - Jobs attained by graduates under study
    - Income one-year post graduation
    - Overall perception of impact due to TCU
- ROI
    - Income differential (high school versus college graduate)
    - Operating cost of TCU

It is important to note that income as a measure of impact on Indian Country is only one of many other benefits that come with graduates attaining and retaining jobs. Given the purpose and scope of this research, the design intentionally omitted other measures of impact (e.g. innovation, safety and health, community development, etc.). Job attainment and perception of other impacts are also important measures of impact on Indian Country. Specific targets were available for reaction and learning measures based on school standards. The target for income differential was performance of an AIAN high school graduate as compared to the average income of CCCC graduates. Targets for other measures were unavailable as this was the first analysis of this type for TCUs.

Data Collection Methods/Instruments

Data were collected for each of the levels of evaluation. CCCC records were the primary method of data collection for student count, demographics, and types of degrees (Level 0).

Records included graduation records of CCCC students from Fall 2017, Spring 2018, and Summer 2018. Demographic data regarding enrollments at CCCC was sourced from Integrated Postsecondary Education Data Systems (IPEDS), which are available online from the US Department of Education (2019). Student reaction (Level 1) data came from end of course surveys for courses taken by the target audience. Additional reaction data describing overall perception of attending CCCC were obtained during the talking circles.

What is a talking circle?

Talking circles are used by many AIAN tribes to discuss ideas in such a way that all stakeholders are heard and all ideas are respected (Janecek-Hartman, 2007). Talking circles are like focus groups in that they allow for consensus building in a group but are different in that they allow each participant to talk as long as he/she wants and have a distinct connection to AIAN ritual. Questions asked during the talking circles can be found in Appendix B.

Learning data (Level 2) were collected through CCCC records of student performance in classes from Fall 2017, Spring 2018, and Summer 2018. Data included course names, departments, final grades, and student ID number. Additional insight into learning and traditional and contemporary American Indian cultural values were captured through talking circles.

Experiential learning and Internships (Level 3) were measured primarily through the data collected during the talking circles with graduates of CCCC. Data reflective of Impact on Indian Country (Level 4) were collected from CCCC records, Bureau of Labor Statistics, National Center of Educational Statistics (NCES), and IPEDS. Additional impact data were collected during the talking circles. Data important to the ROI calculation, including cost data and monetary benefits, were collected through TCU operations records, receipts for expenses, previous studies, and the US Bureau of Labor Statistics.

Table 6 shows the data collected using the different approaches are integrated to ensure a complete story of success.

Table 6. Data Integration

	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
CCCC Records	X		X		X	
IPEDS	X				X	
End of Course Surveys		X				
Talking Circles		X	X	X	X	
US Bureau of Labor Statistics					X	X
NCES					X	X
TCU Operations Budget						X
Receipts for Expenses						X
Previous Studies						X

Sources

An important standard of the ROI Methodology, as with any research report, is to collect data from the most credible source of information (Guiding Principle 3). Credibility is defined as the source or sources that are most informed about the measure being taken.

Sources for the data collected in this study include:

- CCCC School Administrator
  - CCCC Institutional Records
- State of North Dakota representative
  - Bureau of Labor Statistics data
- Databases
  - IPEDS
  - Previous Research
  - National Center of Education Statistics
- Students of Specific Courses
- Graduates of CCCC

The target audience for the evaluation included graduates of CCCC from Fall 2017, Spring 2018, and Summer 2018.

On April 2, 2019, Dr. Jennifer Janecek-Hartman, executive director of the North Dakota Association of Tribal Colleges, and Dr. Patti Phillips, chief executive officer of ROI Institute, facilitated a talking circle at CCCC. Ten people attended the 90-minute session – four men and six women. The ten participants completed degrees at CCCC between 2009 and 2018. Two participants were brothers, both students of graphic arts. One brother had already started a photography business and enrolled in school to improve its performance. He encouraged his

brother to enroll. One participant graduated with a degree in natural resource management and now works at the school. Another participant holds both a carpentry and HVAC degree. Two others studied liberal arts ad business administration. One described going to the University of Louisville, then UTTC, and then found her place at CCCC. One participant completed her nursing degree in 2009 and has recently completed her degree in social work.

Employment data from the Bureau of Labor Statistics was used in the analysis at Level 4. Data was produced by a representative of the State of North Dakota in partnership with an CCCC administrator. There was one graduate in Fall 2017, 14 graduates in Spring 2018, and two in Summer 2018, for a total of 17 graduates. The employment status of these graduates was tracked for four quarters after the time of their graduation.

Timing

Data are typically collected during and after implementation of a program or project. This case study uses data from 2017-2018. The data, however, represent data collected during and after engagement with the school. Reaction and learning data were originally collected while students were in school. Employment and income data represent that at the time or soon after graduation in 2017-2018.

Responsibilities

Responsibility for data collection is under the project lead. However, convenience with data collection is also a consideration. Reaction and learning data are collected during and after each course; therefore, the responsibility is with the instructor to ensure the data collection occurs. Collection of application and impact data is the responsibility of the project lead who sometimes relies on other sources to assist in ensuring the data are available.

Table 7 summarizes the data collection procedures.

Table 7. Data Collection Plan

Level	Program Objective(s)	Measures	Data Collection Method/Instruments	Data Sources	Timing	Responsibilities
0	**Student Count**	• # graduates • Demographics • % grad versus non grad • Type Major	• CCCC Records • IPEDS	• CCCC School Administrator	• Onset of evaluation	• CCCC School Administrator
1	**Student Reaction and Satisfaction**	• Institutional Performance (6.0/7.0) • Class Satisfaction (6.0/7.0) • Overall perception	• Course evaluation • Graduate survey • Talking circle	• Students when in class • Graduates with jobs	• During courses • Onset of evaluation	• CCCC School Administrator • ROI Institute
2	**Student Learning and Traditional and Contemporary American Indian Cultural Values**	• I learned a great deal • Courses most excelled • Grades overall • Grades by division • Self-report learning	• Student evaluation • Fall grades 17 • Fall grades by division 17 • Spring grades 18 • Spring grades by division 18 • Summer grades 18 • Talking circles	• CCCC School Administrator • Graduates with jobs	• During courses • During evaluation period	• CCCC School Administrator • ROI Institute
3	**Experiential Learning and Internships**	• Specific examples of application • Overall perception of exp learning opportunities • Use of knowledge and skills on job	• Talking circles	• Graduates with jobs	• During evaluation period	• CCCC School Administrator • ROI Institute

4	**Impact on Indian Nation**	• Jobs attained by graduates • Income • Student funding and support • Overall perception of impact due to TCU	• CCCC Records • IPEDS • Previous research • US Bureau of Labor Statistics • National Center for Education Statistics • Talking circles	• CCCC School Administrator • State of ND representative • Graduates with jobs	• During evaluation period	• CCCC School Administrator • ROI Institute
5	**ROI:** 0%	**Comments:** Zero percent is the breakeven ROI target. Income differential is the value-add and will be used as the basis for ROI. Other benefits will be identified through analysis. Recommendations for improvement and future research will be identified.				

Analysis Procedures

The ROI Analysis Plan, shown in Table 8, provides details regarding how impact data were isolated to CCCC. It also describes other elements important to the ROI calculation.

Isolation Methods

The step to isolate the effects of a program, course, or other intervention, including graduating from tribal college, is important in ensuring accuracy of results. By standard (Guiding Principle 5), this step is always taken when evaluating to impact or ROI. Various techniques were discussed during the planning of this research project. Techniques such as control/comparison group analysis, trend line analytics, and creating mathematical models are ideal. While not a control group, a comparison of jobs attained between graduates and non-graduates was conducted to determine if a difference exists. Trend line analysis was useful in comparing AIAN income trends but, given the variety of other factors that can influence differences in incomes, it was not useful in isolating income performance to college attendance and graduation. In working with the leadership of NHSC, the other four participating colleges, it was decided that this step in the analysis would rely on the input from graduates themselves.

Data Conversion Methods

The ROI calculation requires impact data to be converted to money. There are a variety of techniques to convert measures to money. Monetary values for the performance measure of importance to this study – income – was provided by the State of North Dakota. Through the State, researchers were provided quarterly wage data for CCCC graduates from Fall 2017, Spring 2018, and Summer 2018. Data were not available for Fall 2017 or Summer 2018 graduates because it was not yet reported to the State of North Dakota at the time of this evaluation. Earnings varied from quarter to quarter for graduates of CCCC. Therefore, all the quarterly data provided was averaged to create an overall yearly earning average. The precise values for the quarterly values that were used to calculate the overall averages can be found in the Impact on Indian Country section.

Cost Categories

This evaluation is concerned with the ROI of investing in CCCC for one year. While the benefits are from the student perspective (jobs and income), the denominator reflects costs of operating the college. During the planning stage, the tribal college leaders and the ROI Institute research team agreed that jobs and income differential would serve as a proxy for the benefits of investing TCUs has on Indian Country, although, in any one year, TCUs offer other quantifiable benefits. The college's general fund expenses for fiscal year 2018 were considered when developing project costs. The final total was prorated according to the total enrollment of CCCC from the Fall 2017 semester (242) because this budget was ultimately used to ensure students make progress towards degree completion. The resulting figure was then assigned to the number of graduates from the Fall 2017, Spring 2018, and Summer 2018 semesters to determine the final program costs associated with graduating the 17 students.

Intangible Benefits

Intangible benefits are those benefits of investing in TCUs that are not part of the ROI formula. Sometimes, the intangibles are important enough to offset less than desirable short-term ROI. Intangible benefits better reflect the reality of the impact made by TCUs because some of the most important things to Native communities are very difficult to convert into dollars. For example, it is very difficult to place value on people feeling a part of their culture and learning their native language. It is also difficult to place value on students feeling safe at school and recognizing their ability to contribute to their community. These types of benefits are critical to strengthening the fabric of Native communities. Oral tradition has always played a central part in Native cultures. These stories should always be a part of telling the story of TCUs.

Communication Targets

Key stakeholders will receive the initial findings of this research. These stakeholders include:

- American Indian College Fund Office of Research and Sponsored Programs
- CCCC Administrators

Additional stakeholders will receive the results as deemed appropriate by CCCC leadership.

Table 8. ROI Analysis Plan

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/Issues During Application
Jobs	• Compare those who have jobs but did not complete to those that did complete and have jobs • Estimations	N/A	School Operational Budget – inclusive of all costs Other expenses associated with evaluation project	Graduate perceived impact on Indian Country	• American Indian College Fund Office of Research and Sponsored Programs • CCCC Administrators	A variety of other factors exist that can influence outcomes important to this study including type of degree, job opportunities, family situation, and others.
Income	• Estimations	Databases: BLS data National Center of Educational Statistics				
Overall perception of impact	• Estimations	N/A				
Comments: When converting income to money for the ROI formula, use income differential high-school graduate compared to college graduate.						

Limitations

As with all research, limitations exist within this research. First, the project focused on one specific time frame 2017-2018 and does not reflect the total economic contribution of tribal college participation and graduation. It was determined that a focus on small groups from the five colleges would be more beneficial than a macro-level study replicating other similar research projects. This is also the first implementation of the TCU-ROI Conceptual Model and it was decided that a small, limited-in-scope project would be the best use of resources. While the ROI Methodology has been applied to a variety of higher education programs and projects, the Indian Nation adaptation by Janecek-Hartman remained theoretical until this point in time.

Another limitation is that the objectives and specific targets for success were not defined through analysis, but rather qualitatively and assumptively. Therefore, comparing outcomes to the desired state is challenging and offers the TCUs an opportunity to more methodically define measures and set targets for success.

From a data collection standpoint, it would have been helpful to include a survey or interview of the supervisors of graduates to allow different viewpoints to enter the conversation. This perspective is important because supervisors are focused on business results and can identify how well applied skills drive value.

Impact data (i.e. jobs and earnings data) were reported at a point in time that not all of the 2017-2018 cohort had time to find employment after graduation in time for the figures to be reflected in the State of North Dakota's reporting that was critical to this study. Therefore, future studies should allow enough time for graduating cohorts to become employed and for that data to populate in source databases prior to calculating benefits.

Lack of access to students limited scope of perspective and opportunity to determine additional benefits. While students who graduated and still work on the reservation (and particularly at the school) were relatively easy to locate, an important part of the story should be the success graduates have in mainstream professions and how attending tribal college contributes to their success as well as their contribution to the Indian Nation.

It is important to note that income as a measure of impact on Indian Country is only one of many other quantifiable benefits that come with graduates obtaining and retaining employment. Given the purpose and scope of this research, the design purposefully omitted other measures of impact. However, qualitatively, graduates of the college provided insight into their job attainment and other impacts they believe occur as a result of attending and graduating from a TCU.

In summary, data collection and analysis were limited by the scope of this project. Many of the limitations can be addressed with time, access to data, and resource availability.

Delimitations

Despite the limitations in the research, this study offers a baseline recap of success of graduates within a specific timeframe. Project parameters enabled the researchers to remain focused and to develop evaluation case studies that provide new and pertinent insight for leadership and other stakeholders. The lead researcher and analyst from ROI Institute are not from Indian Country, nor do they have a bias toward the success of tribal colleges. This perspective added a layer of objectivity during the talking circles and the analysis.

This study adhered to the central tenants of conducting ROI evaluations in Indian Country by engaging in talking circles with graduates. The talking circles provided the opportunity for the community to speak to cultural considerations and was also inclusive of community members, thus, making the activity participatory at its very core. Engaging in talking circles reflects the Native value of personal sovereignty which "realizes that a community member is able to contribute to the community and that he/she was valued for his/her skills" (Janecek-Hartman, 2007, p. 83).

Highlights regarding how this evaluation specifically followed ROI Guiding Principles include adhering to the third principle by using credible sources for data used in this evaluation. Using the access and expertise of an CCCC administrator, as well as a representative of the State of North Dakota, allowed the evaluators to use only the most solid and reputable data.

Furthermore, this study follows Guiding Principle 10 by including all the costs from the entire CCCC budget when calculating the cost used in the ROI calculation. On the benefits side of the calculation, income differential was used as the basis for the monetary values. Also, in compliance with Guiding Principle 6, assumptions were only made for those students who had jobs at the point in time that the income data were reported, rather than projecting benefits for graduates who would, hopefully, attain jobs in the future. Further details regarding how the ROI Guiding Principles were applied will be discussed more fully in the appropriate sections later in this report.

The page is intentionally left blank.

Results

The objectives for this study were to:

1. Determine the institutional Return on Investment outcomes based on wage earnings and employment for the five (5) North Dakota Tribal Colleges.

2. Describe outcomes for the five (5) participating North Dakota Tribal Colleges. Outcomes are categorized based on the TCU ROI framework. This framework categorizes data as

    - Indian Student Count
    - Student Reaction and Satisfaction
    - Student Learning
    - Traditional and Contemporary American Indian Cultural Values
    - Experiential Learning and Internships
    - Impact on Indian Country
    - Return on Investment
    - Intangible Benefits

Indian Student Count

The first datapoint to present in this report is enrollment of AIANs at CCCC. Janecek-Hartman (2007) identifies the reason for this by stating that funding for CCCC and Tribal Colleges in general is heavily based on the number of full-time equivalent and unduplicated enrollment. Figure 6 displays AIAN enrollments for CCCC from 2010-2017.

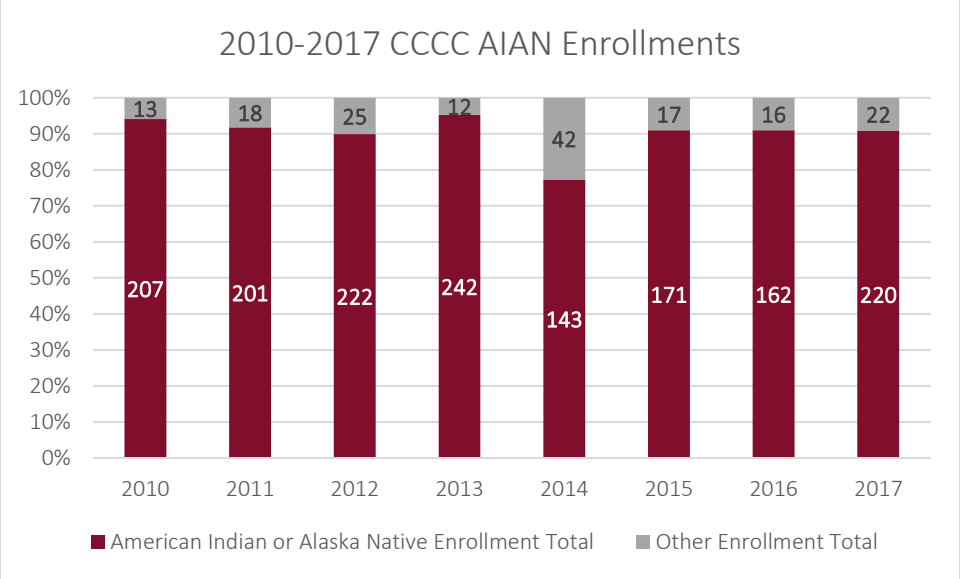


Figure 6. 2010-2017 CCCC AIAN Enrollments

Levels of Degrees Earned

Figure 7 provides an overview of the types of degrees earned by CCCC graduates from 2010 to 2017.

CCCC largely awards associate degrees, which is typical for most community colleges. Of the 261 of degrees awarded during this seven-year span, 85.44% were associate degrees. CCCC does not award bachelor's degrees.

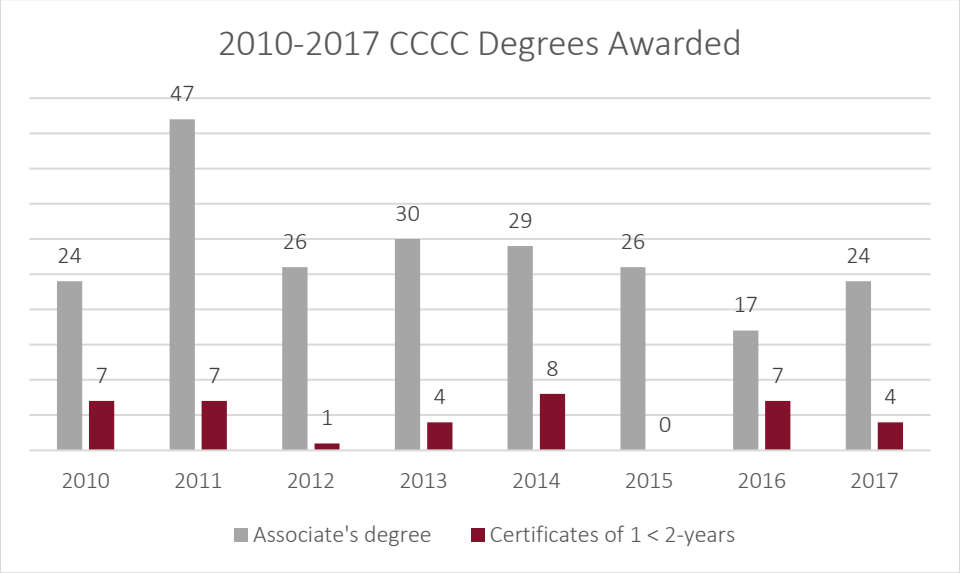


Figure 7. 2010-2017 CCCC Degrees Awarded

Student Reaction and Satisfaction

Level 1 results measure student reaction to and satisfaction with courses and the school overall. Satisfaction is important to assess because it is the most basic level of evaluation and its results often serve as early indications of program success. If people are not satisfied with a program, there is little chance that people will be receptive to learning or applying the knowledge and skills needed to have a positive impact on Indian Country. This evaluation assessed levels of satisfaction from students who took classes at CCCC during Spring 2017 and Spring 2018.

Results are presented in aggregate for all CCCC and according to academic program. The aggregate data includes sections that focus on Demographics and Institutional Performance. Academic program results for Level 1 focus specifically on various aspects of student satisfaction with instructional aspects of courses.

Student Demographics

Figure 8 displays the academic level of students taking classes at CCCC during the 2017-2018 academic year.

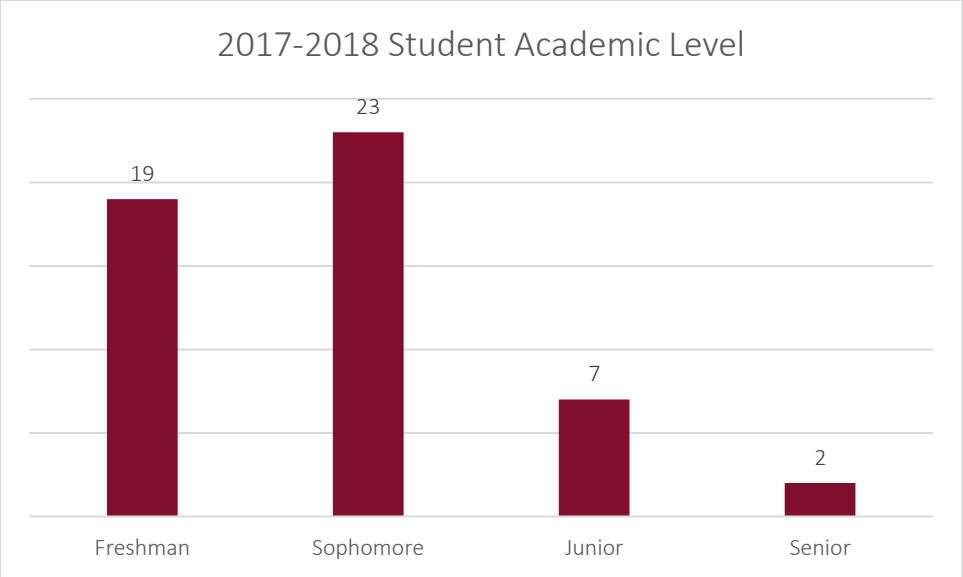


Figure 8. 2017-2018 Student Academic Level

During the period evaluated, the majority of those responding to the CCCC survey were either freshmen or sophomores. The impact of these figures on academic success are not the subject of this evaluation, but further investigation is encouraged to assure these trends are not a cause for future concern. This could be concerning in areas such as whether existing faculty can effectively manage large numbers of students entering higher division classes.

Figure 9 presents the gender of students who completed courses at CCCC from 2017-2018.

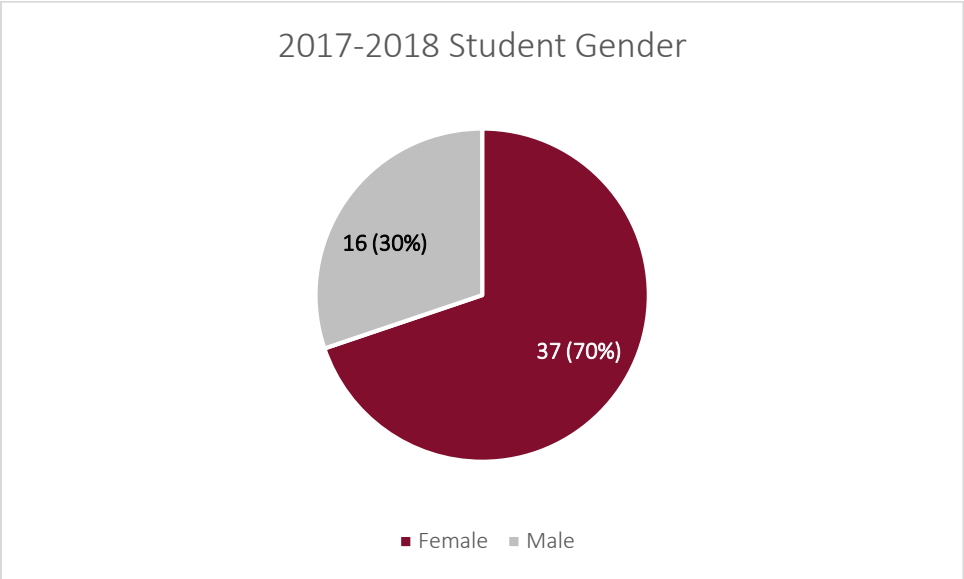


Figure 9. 2017-2018 Student Gender

Results show that more female students were enrolled in courses at CCCC and completed evaluations than male students. The large number of female students taking courses suggests that CCCC practices inclusivity and provides Native women the opportunity to increase their knowledge and further their education.

Figure 10 displays the age range of students.

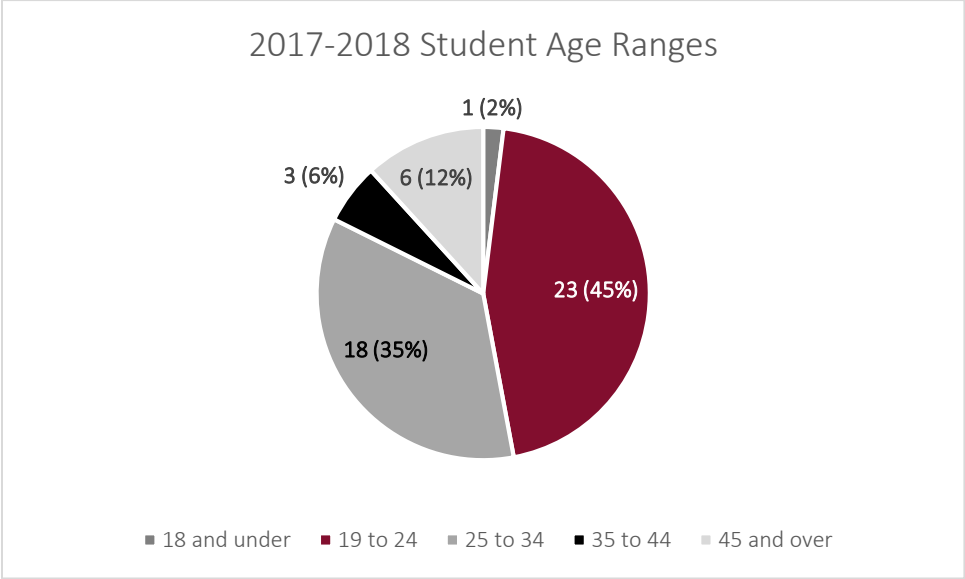


Figure 10. 2017-2018 Student Age Ranges

The largest group in this sample is between 19 to 24 years. This is reflected in the large number of freshman and sophomores enrolled in classes at CCCC. Evaluated together, the level and

ages of students suggests most of the students at CCCC are traditional college students who have recently completed high school.

Institutional Performance

Figure 11 displays various institutional performance metric summaries based on average scores of 96categories.

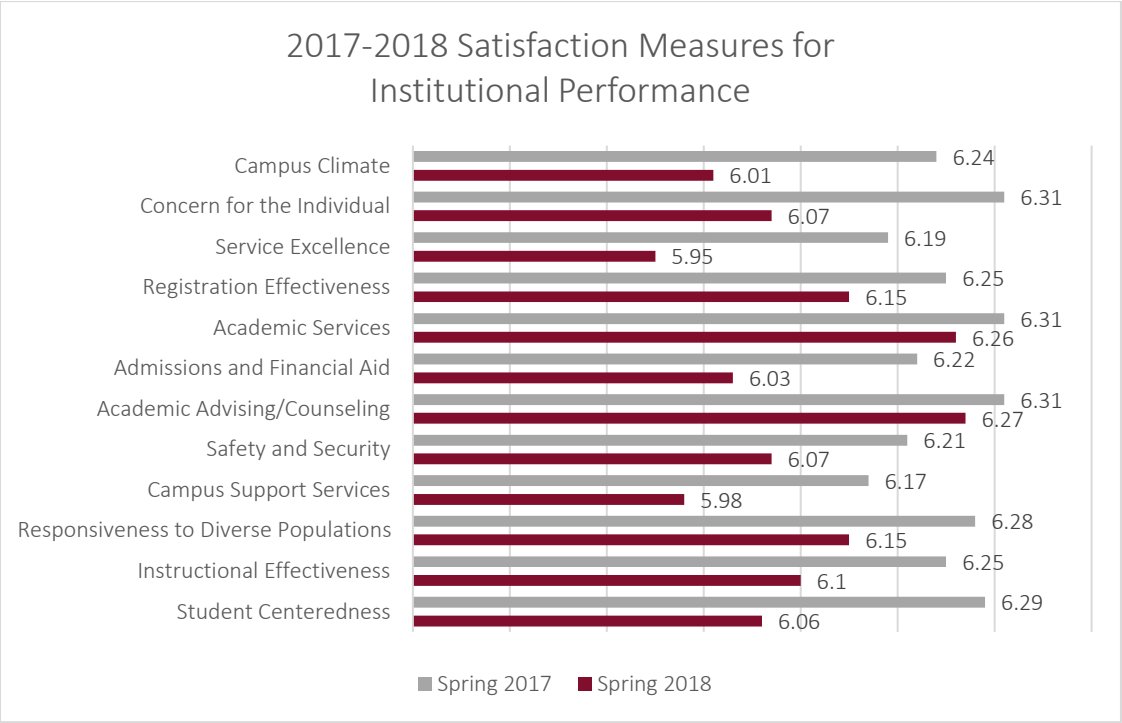


Figure 11. 2017-2018 Satisfaction Measures for Institutional Performance

One trend that is evident from the data is that all scores decreased from Spring 2017 to Spring 2018. Areas with the largest drop were Service Excellence and Concern for the Individual (decreased 0.24 points) and Student Centeredness and Campus Climate (decreased 0.23 points) points. These areas should be monitored to ensure this trend does not continue in future years.

Class Satisfaction

CCCC calculated averages for each of the following satisfaction measures for all their course offerings for Spring 2018 as indicated in Table 9.

Table 9. Spring 2018 Institutional Averages for Course Satisfaction

	So far, how has your college experience met your expectations?	Rate your overall satisfaction with your experience here thus far.	All in all, if you had to do it over, would you enroll here again?
Spring 2018	5.44	6.05	6.36

These totals should serve as a general baseline with which to evaluate the success of individual courses. This evaluation will use the more conservative goal of achieving a 6 out of 7 rating to interpret satisfaction measures to assure consistency as well as reliability in the interpretation of the results.

Overall Perception of Attending Tribal College

Graduates participating in the talking circles described attending CCCC was just what they needed. While one person said that she came to CCCC by default due to involvement in Head Start, she likes it. She is in her bachelor's' program at UND because a faculty member from CCCC helped her transition.

I am now in the bachelor's degree program at UND because of a faculty member who helped me transition. It is hard to transition. We are the invisible people.

Participants like that the college is close to home and that it feels like home. One person told the group that she had not intended to go to school, but that it is "great." One graduate shared that high school was an all-white culture and that going to CCCC allowed her to learn about who she is. Multiple participants described how faculty help when life gets in the way of studies. Faculty have been known to walk babies and give students rides if they can't get to class on their own. All ten of the talking circle participants have recommended attending CCCC to others in similar situations.

The door is always open.

Student Learning

Level 2 results measure the changes in knowledge, skills, and attitudes. These results are important because they demonstrate that new knowledge, skills, and attitudes have been learned and thus an opportunity exists for these to be applied on the job. For this research project, learning was evaluated by analyzing the grades earned by CCCC students in the Fall 2017, Spring 2018, and Summer 2018 semesters.

Results in this section are first presented according to aggregate percentages of grades to establish general levels of student achievement. Next, grades by academic department are presented. The final level of detail in this section are the specific courses in which students earned an A.

Overall Grades

Figure 12, Figure 13, and Figure 14 present the overall grade distributions across all courses for the Fall 2017, Spring 2018, and Summer 2018. Note that the grade distributions presented also include other categories such as a *Withdraw* (W), an *Incomplete* (I), *Satisfactory* (S), and *Unsatisfactory* (U).

The first aspect of the data to consider is that the percentages of A-earning students each semester is inconsistent. The range of percentages for As is between 28% and 52%. Meanwhile, the range of percentages for Bs is very consistent between 12% and 13%.

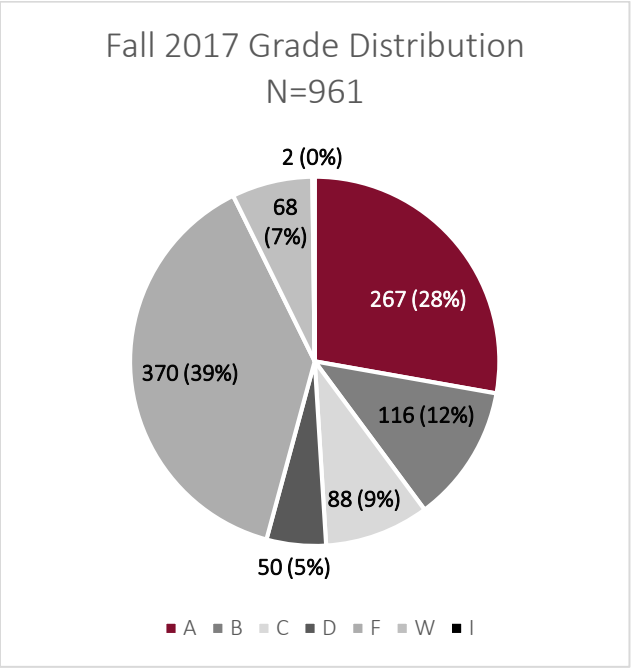


Figure 12. Fall 2017 Grade Distribution

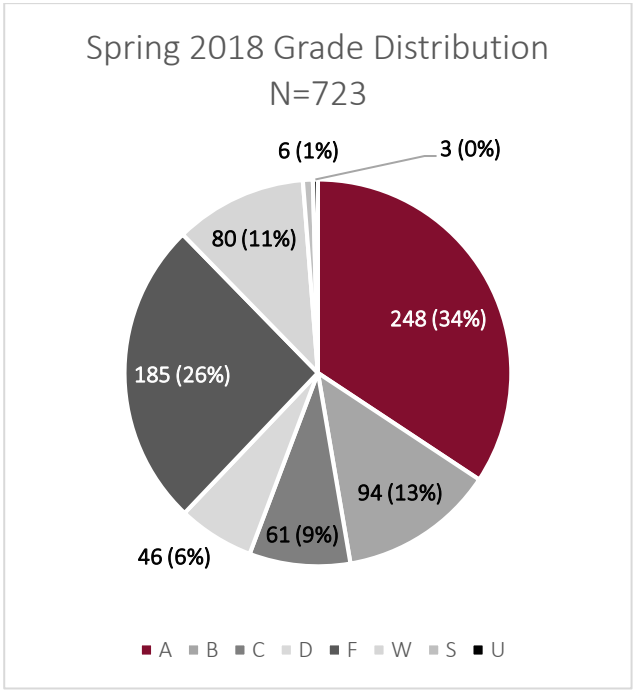


Figure 13. Spring 2018 Grade Distribution

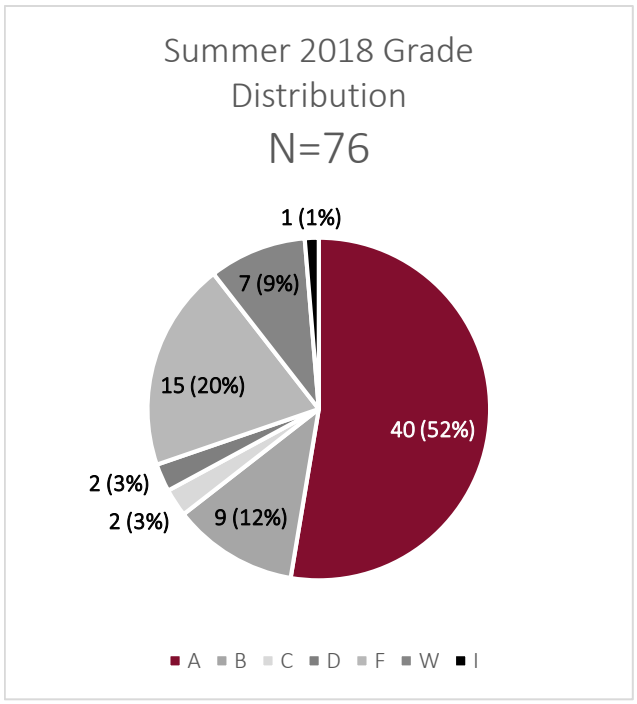


Figure 14. Summer 2018 Grade Distribution

If the percentage of passing grades (A, B, and C) is considered collectively for each semester, the results would be:

- Fall 2017 – 49%
- Spring 2018 – 56%
- Summer 2018 – 67%

Therefore, a minimum of 49% of CCCC students earned a passing grade in the courses they completed during the evaluation period.

The total percentages of Fs earned by students at CCCC was not as consistent as the percentages of passing grades. The range of failing grades was between 20% and 39%. Fall 2017 saw the highest number of failing grades.

In order to assess the meaning of the percentages of failing grades at CCCC, it is necessary to compare with the number of failing grades received by students at peer institutions. The most applicable peer group are the other four Tribal Colleges in North Dakota. Figure 15 presents the number of failing grades at all the Tribal Colleges as compared to the rest of the grade averages.

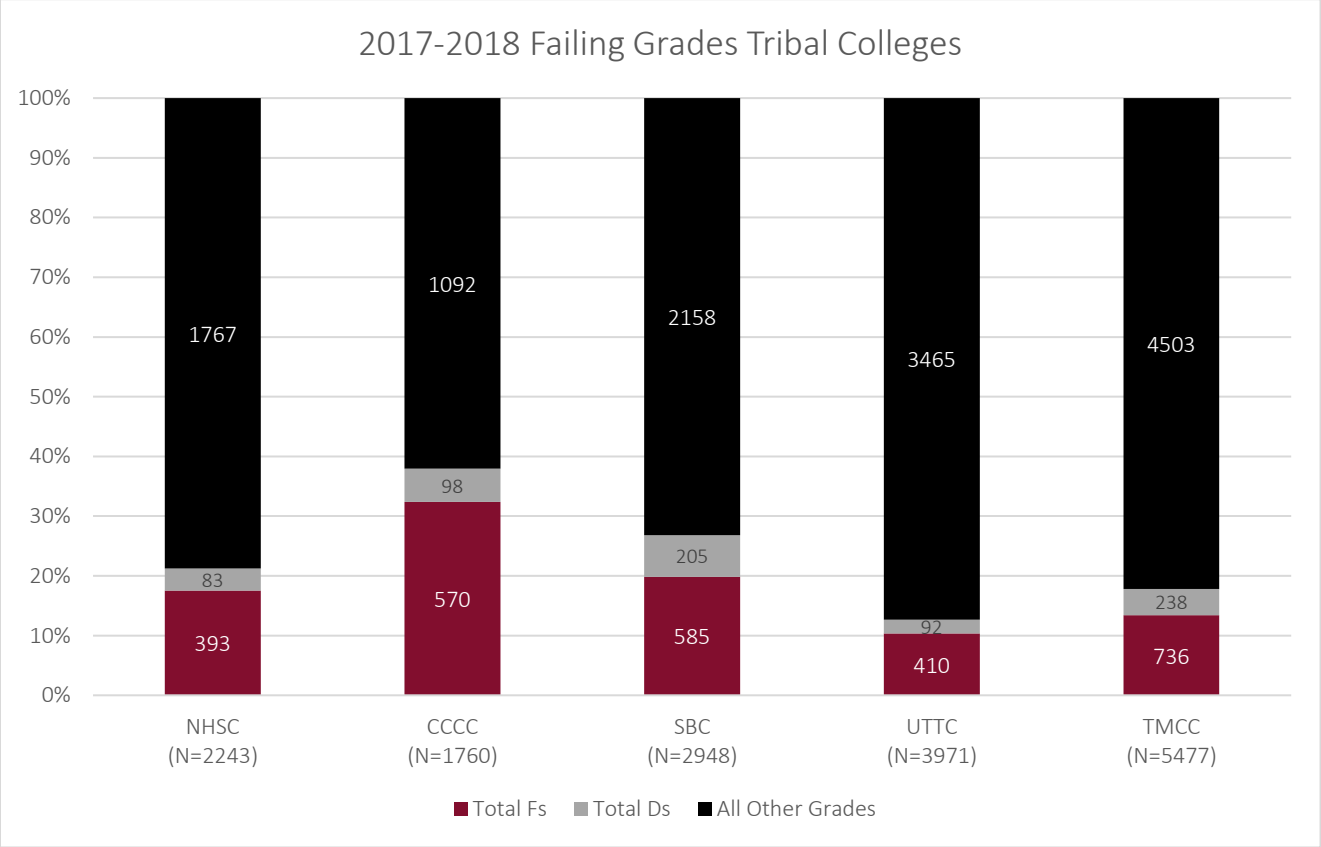


Figure 15. 2017-2018 Failing Grades Tribal Colleges

The average percentage of failing grades across the North Dakota Tribal Colleges is 23.28%. The percentage of failing grades at CCCC is the highest among the Tribal Colleges at 37.95%. Students enrolled at CCCC are performing below average compared to students at other Tribal Colleges.

Now that the general achievement of CCCC students has been established, further detail regarding student achievement can be examined.

Grades by Division

Table 10, Table 1, and Table 2 provide details regarding the grades CCCC students earned according to each academic department offering the given courses. Note that the total number of courses per department from which grades were provided is listed with each department abbreviation in the far-left column. A full accounting of the acronyms used in the tables in this section can be found in Appendix A. The absence of grades in a category is denoted using a dash (-).

Table 10 presents grades by division for Fall 2017.

Table 10. Fall 2017 Grades by Division

	A	B	C	D	F	W	I	S	U	AU
ACCT (N= 4)	7	-	-	1	5	2	-	-	-	-
AM (N= 1)	3	-	-	-	-	-	-	-	-	-
ART (N= 12)	27	4	2	3	11	5	-	-	-	-
ASC (N= 12)	28	10	6	4	53	7	-	-	-	-
BCT (N= 3)	-	-	-	-	5	2	-	-	-	-
BIOL (N= 8)	3	5	6	1	14	10	-	-	-	-
BOTE (N= 3)	2	1	1	-	3	-	-	-	-	-
CARP (N= 5)	22	2	6	1	15	3	2	-	-	-
CDL (N= 14)	28	19	-	-	27	-	-	-	-	-
COMM (N= 1)	2	3	3	1	4	3	-	-	-	-
CSCI (N= 4)	13	5	15	9	26	2	-	-	-	-
DS (N= 3)	7	6	1	7	7	2	-	-	-	-
EC (N= 3)	10	8	3	-	19	5	-	-	-	-
ECON (N= 1)	5	1	3	-	3	-	-	-	-	-
ENGL (N= 14)	45	29	25	14	114	19	-	-	-	-
ENGR (N= 1)	-	-	-	-	2	-	-	-	-	-
ENS (N= 1)	1	-	-	-	-	-	-	-	-	-
GEOL (N= 2)	2	-	2	2	-	-	-	-	-	-
HIST (N= 3)	6	3	2	-	3	-	-	-	-	-
HPER (N= 6)	18	2	7	4	19	3	-	-	-	-
HUM (N= 1)	3	-	-	-	2	-	-	-	-	-
HVAC (N= 4)	-	2	1	1	1	-	-	-	-	-
IS (N= 2)	2	2	-	1	1	-	-	-	-	-
MATH (N= 6)	7	3	1	1	13	2	-	-	-	-
NAT (N= 3)	2	5	-	-	1	-	-	-	-	-

NUTR (N= 1)	1	1	2	-	2	-	-	-	-	-
PHRM (N= 1)	-	1	-	-	-	-	-	-	-	-
POLS (N= 1)	3	1	1	-	1	2	-	-	-	-
PSYC (N= 2)	3	3	1	-	15	1	-	-	-	-
SWK (N= 5)	17	-	-	-	4	-	-	-	-	-

The most active departments during Fall 2017 were CDL and ENGL with 14 classes each. Second were ART and ASC—offering a total of 12 classes each. ENGL, CDL, ASC, and ART have the most As among offerings in Fall 2017. However, before deciding about student learning in courses from these departments, it is necessary to consider the number of failing grades. For example, ENGL has 45 As and more than twice as many Fs with 114. Additionally, CDL has only one more A than F. The percentages of passing grades for each of the departments with the highest numbers of As is as follows:

- ENGL – 40.24%
- CDL – 63.51%
- ASC – 40.74%
- ART – 63.46%

Based on the percentages, student learning was highest in students taking classes in the CDL and ART departments. However, these percentages could be improved. The comparatively higher number of failing grades in both ENGL and ASC drove down the percentages and speak to the presence of as much confusion as learning in these courses. Further evidence of this claim comes from ENGL and ASC having the first and second most Fs of all the courses offered in Fall 2017. ENGL courses with the most Fs were College Composition I with 19 and Student Success (1st) with 16 Fs. Students in ASC classes had the most difficulties with Pre-Algebra.

The number of withdraws from courses can also be an indicator of student struggles. Again, we see ENGL is the division with the highest number of withdraws at 19. The second highest number of withdraws can be found in BIOL with 10. None of the other courses had more than 10 withdraws. The BIOL classes were challenging for students with only 14 total passing grades and 15 failing grades. During Fall 2017, student learning was strongest for classes in the CDL and ART departments while courses from ENGL, ASC, and BIOL proved to be most challenging for students.

Table 11 reflects grades by division for Spring 2018.

Table 11. Spring 2018 Grades by Division

	A	B	C	D	F	W	I	S	U	AU
ACCT (N= 2)	7	4	3	-	1	1	-	-	-	-
AM (N= 1)	2	-	-	-	-	-	-	-	-	-
ART (N= 14)	21	2	-	6	10	4	-	-	-	-
ASC (N= 11)	24	10	-	6	21	6	-	-	-	-
BADM (N= 1)	5	1	1	1	2	1	-	-	-	-
BCT (N= 5)	1	3	1	-	5	3	-	-	-	-
BIOL (N= 10)	4	8	6	-	14	13	-	-	-	-
BOTE (N= 5)	6	4	2	3	1	2	-	-	-	-
BUSN (N= 1)	1	-	-	-	-	-	-	-	-	-
BVED (N= 2)	1	2	-	1	-	-	-	-	-	-
CARP (N= 5)	9	11	3	2	2	-	-	-	-	-
CDL (N= 7)	19	-	-	-	12	-	-	-	-	-
CHEM (N= 4)	-	3	2	-	-	-	-	-	-	-
COMM (N= 1)	3	5	-	1	1	1	-	-	-	-
CSCI (N= 2)	6	1	2	3	12	1	-	-	-	-
DS (N= 3)	17	2	11	3	1	3	-	-	-	-
DSL (N= 1)	1	1	-	-	1	-	-	-	-	-
EC (N= 5)	9	8	2	1	11	1	-	-	-	-
ECON (N= 1)	3	-	2	1	2	1	-	-	-	-
ENGL (N= 15)	33	13	16	5	60	20	-	-	-	-
ENGR (N= 1)	-	2	-	-	-	-	-	-	-	-
ENS (N= 1)	1	-	-	-	-	-	-	-	-	-
GEOG (N= 1)	-	1	-	-	-	-	-	-	-	-
HIST (N= 3)	9	1	2	1	1	-	-	-	-	-
HPER (N= 7)	16	2	1	3	11	11	-	6	3	-
HUM (N= 1)	1	-	-	-	-	1	-	-	-	-
IS (N= 1)	-	1	-	1	-	-	-	-	-	-
MATH (N= 8)	4	4	5	5	7	4	-	-	-	-
ME (N= 2)	-	-	-	-	1	1	-	-	-	-
NAT (N= 2)	2	-	-	-	-	-	-	-	-	-
POLS (N= 2)	6	1	2	2	2	1	-	-	-	-
PSYC (N= 1)	1	1	-	1	3	2	-	-	-	-
SWK (N= 5)	36	3	-	-	4	3	-	-	-	-

Again, ENGL and ART were the two departments offering the largest number of classes, with 15 and 14 respectively. ASC had 11 courses and BIOL had 10.

SWK and ENGL had almost twice as many As other departments at CCCC during the Spring 2018 semester with 36 and 33. The second most is ASC with 24, followed by ART with 21 and CDL with 19 As. The percentages of passing grades for all departments are:

- SWK – 85.78%

- ENGL – 42.18%
- ASC – 50.75%
- ART – 53.49%
- CDL – 61.29%

During Spring 2018 the two departments that contributed the most to student learning were SWK and CDL. SWK was not among the top performing divisions in the previous semester. However, SWK did perform strongly in Fall 2017 with 17 As and only four Fs. This outcome suggests that one of CCCCs' strengths is educating future mental health professionals. This is encouraging as social work is a stable professional field, mostly because the demand for work as many AIANs experience mental health issues including depression and anxiety.

CDL continued strong performance from the Fall 2017 semester and improved the percentage of passing grades CDL offered half the number of classes in Fall 2017 as it did in Spring 2018. This decrease, as well as individual course offerings, could account for the change in overall performance. However, the consistently strong performance of CDL indicates that this program is one of the stronger programs at CCCC.

Although not included in the list of most As for Spring 2018, another department to highlight is DS because it awarded 81.08% passing grades. Such a high percentage puts it just below the SWK. The emergence of DS as a top performer is positive because this department offers Dakota culture classes. Student success in these courses indicates that CCCC provides opportunities for students to be exposed to elements that preserve Native culture. However, future investigation is required as students earned as many As as Fs in DS during Fall 2017.

ENGL experienced low passing grade percentages in Spring 2018 consistent with Fall 2017. The passing grade percentages of ENGL improved slightly in Spring 2018 from Fall 2017 but were still in the low 40s. The slight improvement is likely attributable to different courses being offered during Spring 2018. However, like Fall 2017, ENGL again had the highest number of Fs as compared to the rest of the departments in Spring 2018. ENGL had the highest number of withdraws during both semesters.

Table 12 reflects grades by division for Summer 2018.

Table 12. Summer 2018 Grades by Division

	A	B	C	D	F	CR	W	I	Blanks
ASC (N= 3)	5	-	1	-	5	-	1	-	-
BCT (N= 1)	1	-	-	-	-	-	-	-	-
BIOL (N= 2)	1	1	-	-	-	-	-	-	-
CARP (N= 2)	-	-	-	-	1	-	1	-	-
CDL (N= 2)	6	-	-	-	2	-	-	-	-
COMM (N= 1)	2	-	-	-	-	-	-	-	-

DS (N= 2)	3	2	1	-	-	-	-	-	-
EC (N= 1)	4	1	-	-	1	-	-	-	-
ENGL (N= 5)	5	3	-	-	4	-	1	1	-
GEOL (N= 2)	6	2	-	-	-	-	2	-	-
HIST (N= 1)	1	-	-	-	2	-		-	-
HPER (N= 2)	3	-	-	-	1	-	1	-	-
MATH (N= 1)	1	-	-	-	1	-	1	-	-
NAT (N= 1)	1	-	-	-	-	-	-	-	-
POLS (N= 1)	1	-	-	-	-	-	-	-	-

The most active department during Summer 2018 was ENGL offering a total of five classes. ASC was second with three courses, and six other departments offered two classes each during the semester. ENGL, ASC, and GEOL had the top three amounts of passing grades. GEOL was the highest performing course with all passing grades, six of which were As. The lowest performing courses were from ASC and ENGL; both had high number of Fs.

Classes offered by the ENGL department are some of the most challenging at CCCC, as indicated by the percentages of failing grades. Writing and language arts classes have historically been a challenge for Native students. Thirty-five thousand students who attended public schools and 10,245 students who attended Bureau of Indian Education schools were classified as English Language Learners (Musu-Gillette et al., 2017) in 2014. The challenges encountered by CCCC students should be identified and existing support services like tutoring and writing labs should be modified accordingly.

Classes with the Most As

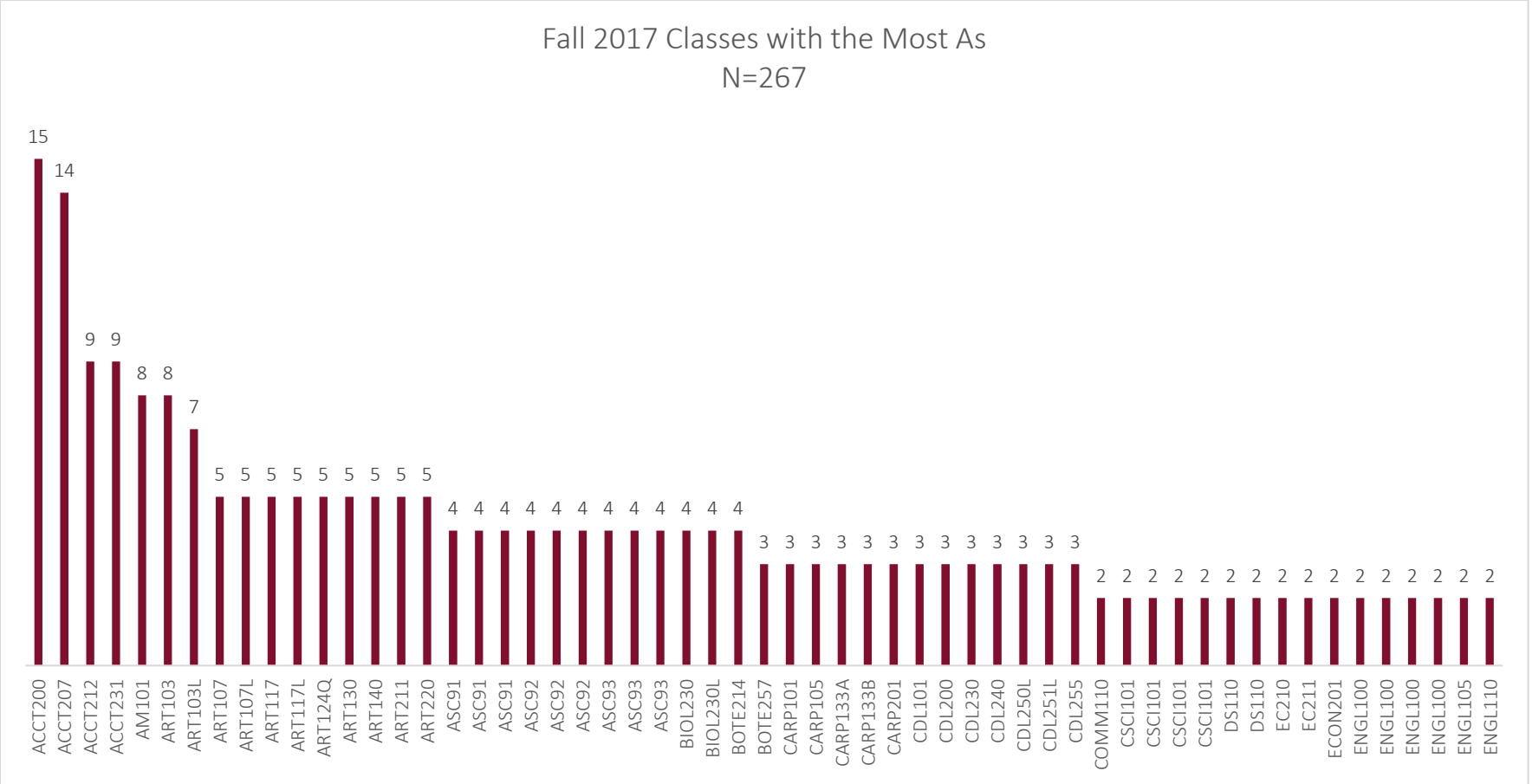
Figures 16, 17, and Figure 18 present the distribution of As by class.

ACCT 200, followed closely by ACCT 207, were the classes with the most As during Fall 2017. ACCT classes occupy the top four spots in this figure. The top 10 classes with the most As are also dominated by courses from the ART department. The only exception to this is one class from AM. ART is among the most frequently listed classes in this illustration of student success with 11 classes. ENGL also has 11 classes in this figure, but most of them were excluded because they only had a few As per class. However, the previously mentioned issues with ENGL make it much less noteworthy.

Like Fall 2017, ACCT had the highest levels of As in Spring 2018. ACCT 200 and 201 tied for the top spot with 10 each. AM was again in the top 10 classes, which was heavy in ACCT and ART offerings. ART classes were again the most frequently listed with 13 courses. All the strongest trends from Fall 2017 continued through Spring 2018.

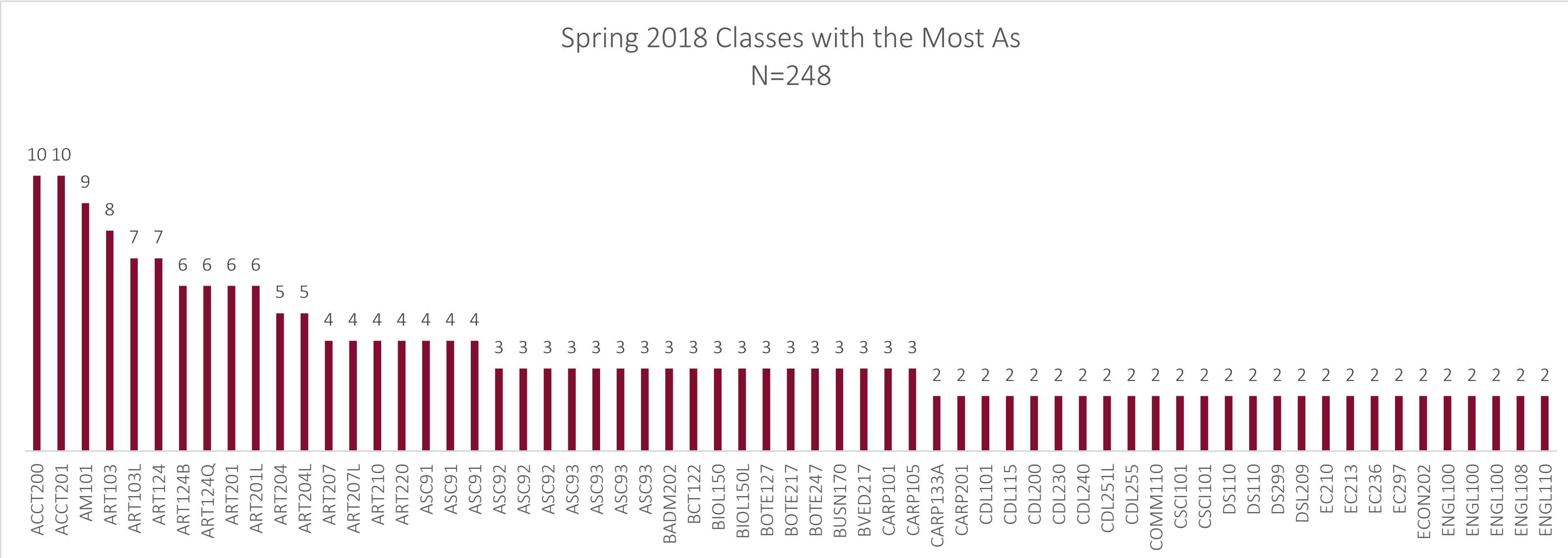
High degrees of success in ACCT courses in both semesters are encouraging because the critical skills learned in these courses play an important part for careers in business and for much-needed degrees, such as business administration. It is difficult to interpret consistently high and

frequent levels of student success in the ART department. Generally, these classes are electives within other degree programs and should be less difficult. Based on this understanding, it is commendable that students are getting excellent grades for these courses. ART classes are critical to the fine arts degree at CCCC, so high performance in these courses likely means these students are doing quite well.



Note: Classes with only 1 A per class (N=33) were excluded from this graphic.

Figure 16. Fall 2017 Classes with the Most As



Note: Classes with only 1 A per class (N=29) were excluded from this graphic.

Figure 17. Spring 2018 Classes with the Most As

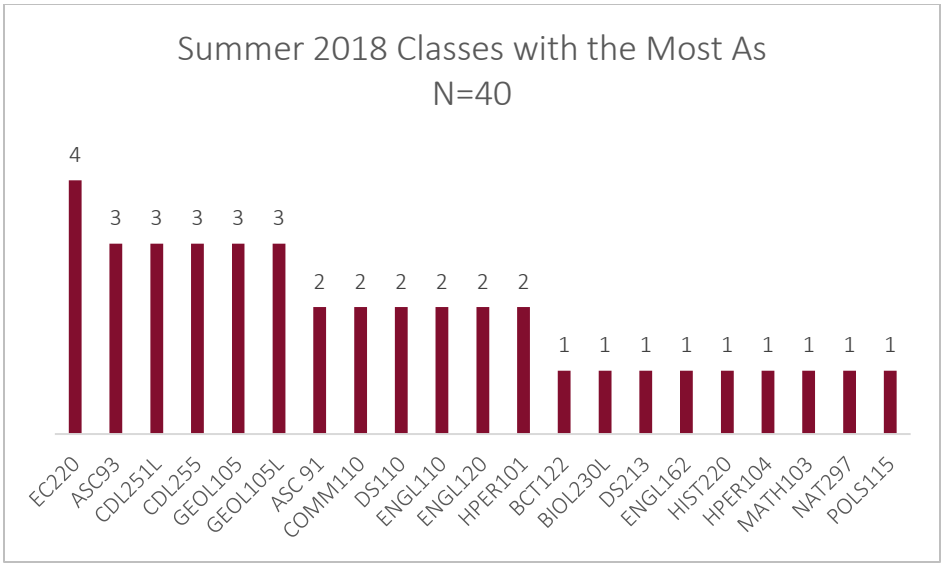


Figure 18. Summer 2018 Classes with the Most As

The distribution of As in Summer 2018 deviates from the trends observed in the fall and spring semesters. The top courses were absent in this data because the courses in ACCT and ART were not offered during the summer semester. EC 220 was the top performing course during the summer, followed by ASC 93 and CDL 251L. CDL appears twice in the top five courses in this figure.

Traditional and Contemporary American Indian Cultural Values

Participants in the talking circles, except for one, gave anywhere from "a lot" to 100% credit to their attendance at CCCC for their success. One student, however, gave his attendance at CCCC zero credit because he has not found employment. Others indicated that much of the success they have achieved is in learning who they are as Native Americans. They talked about how much more they know about themselves and their culture. Some talked about how attending CCCC left them with a sense of responsibility and that they work a little harder than they likely would have had they not attended CCCC. One graduate of the program described how she gives back to the community by offering healthy eating workshops. One graduate who owns a photography business shared with the group how, by attending school, he was forced to communicate openly through a public speaking course and, as a result of that, he better communicates with his customers. He and others have learned the importance of building relationships.

While all students agree that they learn a great deal about traditional and contemporary American Indian cultural values, they also described challenges of such a tight knit community. One CCCC graduate described how the school is so close knit that it makes it hard to transition to mainstream. Another indicated that attending a TCU does not prepare them for a four-year college, but it does teach them how to function in life.

Experiential Learning and Internships

While there are no quantitative measures of success with Level 3, Experiential Learning and Internships, participants of the talking circles described how they were given opportunities to apply their learning while in school. They also described how they continue to apply what they learned in their current jobs. Through experiential learning and internships, students at CCCC learned not only what it means to be American Indian, but they also develop skills they can apply on the job every day.

One participant talked about her behaviors are changing as a result of going to CCCC. She is staying solid. She shows up and is persevering where, without CCCC, she would not have. She has learned to be patient with herself and with others. One described how CCCC opened doors from him. His public speaking course has helped him become more interactive with culture and with language. Another described how he gives back to the community and helps his neighbors. Courses taught this participant mechanic skills which he applies as he helps members of the community. Still another participant talked about how he is a math tutor and helps others with core courses and APA formatting for papers.

The only barrier to application mentioned in the talking circle was from one participant who just has not had a chance to apply what he learned. Yet, the same person talked about how he "fixed a few A/C units for friends" and how he is performing this type of work himself, which saves him money.

Attending CCCC offers students and graduates opportunity to apply what they learn while they are learning and on the job. It also gives students and graduates the opportunity to share what they learn with others.

I embrace being an indigenous woman,
but it gets taxing always being the teacher.

Impact on Indian Country

Level 4 results measure business impact and are important because they illustrate how behaviors that are being applied on the job are influencing key business measures (Phillips, 2003). This study was concerned with the impact of attending CCCC on Indian Country such that graduating from CCCC should be considered according to the contexts of home and local communities and the entire world (Janecek-Hartman, 2007). The implications at these levels reflect the Native value of interconnectedness. While impact on Indian Country should include increase in tax base and other outcomes that lead to a thriving community, the starting point is the impact on the student and the student's access to resources through income. It is this measure of impact that became the focus of the research.

CCCC Impact

Figure 19 shows trend data in AIAN annual income for those who did complete high school, did not complete high school (HS), completed associate degrees (AA), or had some college experience. A report by Musu-Gillette et al. (2017) for the National Center for Education Statistics (NCES) supplied data in the form of the median income in 2014 for full-time AIAN wage and salary workers aged 25 to 34. This figure includes people of all education levels and therefore, is higher than those from 2006. The actual data compared against these baseline datapoints are the annual earnings of CCCC graduates from Spring 2018.

The average annual income for the 2006 figures is $26,400. Adding the figure from 2014 increases the average to $27,080. Conversely, the average income for a Spring 2018 CCCC graduate is $30,042.67. This average income figure is based on three reported quarters from Spring 2018 graduates. The annual earnings of CCCC graduates is 10.94% higher than the average for the general trends baseline data of $27,080. This difference is consistent with a finding from the NCES (2008) that AIANs with a BA earned 26% more than AIAN high school graduates in 2006 and 28% more than AIANs who do not finish high school. CCCC graduates can expect to make more money per year than AIANs who have only graduated high school and have not completed a college degree.

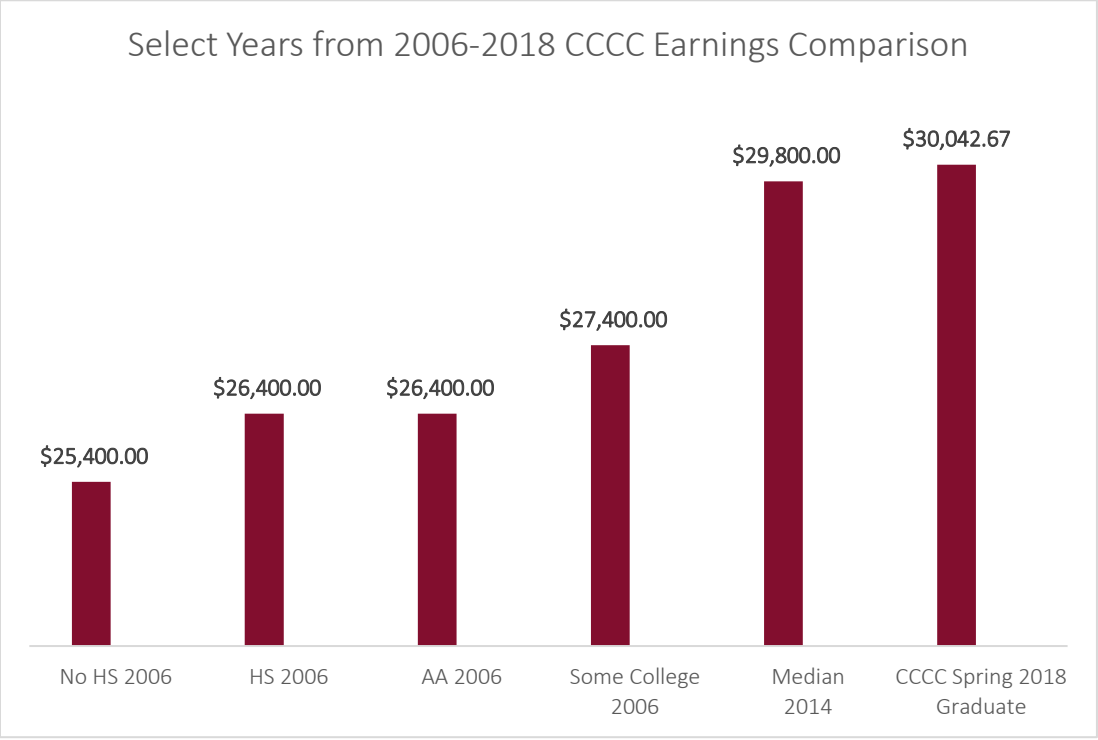


Figure 19. Select Years from 2006-2018 CCCC Earnings Comparison

Before presenting the specific earnings data for CCCC graduates for Spring 2018, it is important to consider the degrees that were earned by these graduates. The degrees earned are directly correlated with their earning potential.

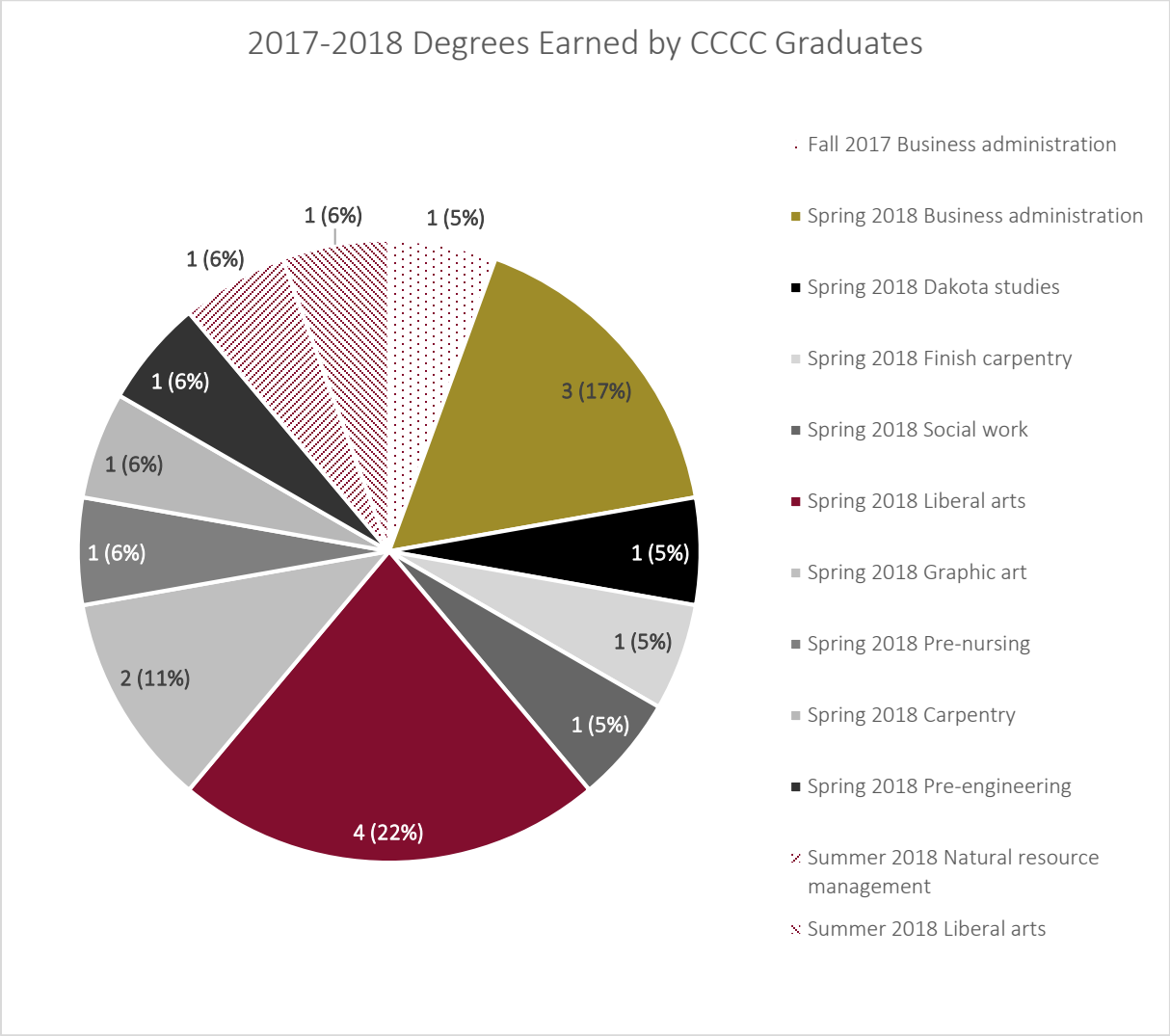
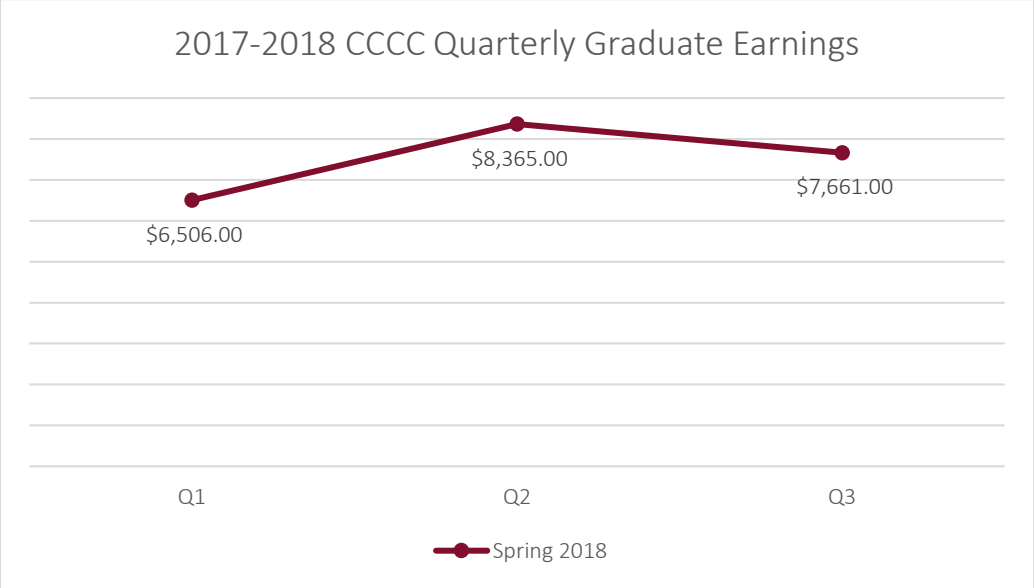


Figure 20. 2017-2018 Degrees Earned by CCCC Graduates

The dotted segment in Figure 20 represents fall graduates, the solid segments are spring graduates, and the striped segments are summer graduates. The graduates from this cohort earned associate of arts degrees, except for two certificates. Most graduates during the time period examined were graduates of liberal arts programs, with four graduates from Spring 2018. These degrees are all at the associate degree level.

The degrees earned by the graduates in the state data are important because they provide a view into the employability of the sample. Although the data provided by the State of North Dakota does not provide the level of detail needed to determine which students became employed, it does aid in assessing the value of the degrees earned at CCCC.

Figure 21 displays the earnings for CCCC graduates who completed their degrees in Spring 2018 from state data.



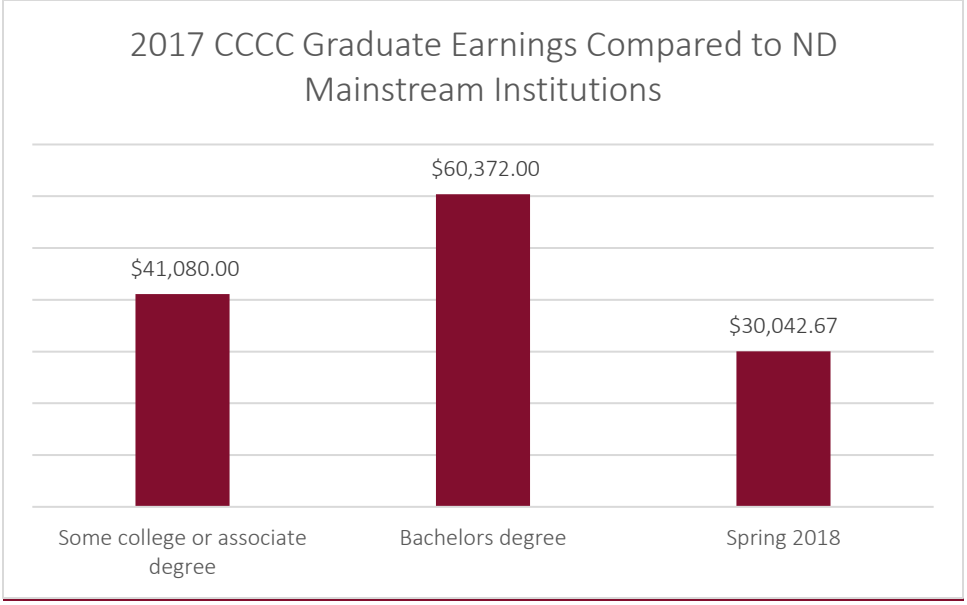
Notes:

1. Six people were employed by Q1 from the Spring 2018 graduation date. The number stayed at six in Q3.
2. Excluded from this graphic are one Fall 2017 and two Summer 2018 graduates as none of them found employment within four quarters after their graduation.

Figure 21. 2017-2018 CCCC Quarterly Graduate Earnings

The average earning of graduates from Spring 2018 is $7,510.67 per quarter. Divided evenly over three months, the average monthly income for Spring 2018 is $2,503.56, or $15.65 per hour assuming the employee works 160 hours per month. Annual earnings for Spring 2018 graduates of CCCC was $ 30,042.67. It was not possible to calculate a monthly income for Fall 2017 or Summer 2018 graduates because no employment data was reported for these cohorts.

The annual income figure for CCCC that was calculated based on the data provided by the State of North Dakota fell far below the average incomes for college graduates in North Dakota, as shown in Figure 22.



Note: Earnings data shown above comes from the State of North Dakota (2017) which sourced its data from a report by the U.S. Bureau of Labor and Statistics that developed averages based on a combination of data for all races of men and women aged 25 and over.

Figure 22. 2017 CCCC Graduate Earnings Compared to ND Mainstream Institutions

Although the earnings of CCCC graduates failed to meet these benchmarks, most of this group works either at CCCC or on the reservation in Fort Totten, as noted in the description of the talking circles described earlier in this report. Data from Benson County, where CCCC is located, can be used in order to make a more appropriate comparison with CCCC graduates. According to the U.S. Bureau of Labor Statistics (2018), the average weekly wage for Benson County during the third quarter of 2017 was $733. This means that the average monthly income would be $2,932 or $35,184 per year. This indicates that the income for CCCC graduates is less than the overall Benson county average.

Earnings on the reservation are generally lower than what they are in other neighboring communities. For example, based on data from the 2012-2016 American Community Survey, the per capita income of AIANs on the reservation was $10,894, while it is $16,978 for the United States (Center for Indian Country Development, 2019). The location where graduates work influences the likelihood of their ability to meet benchmarks.

The fact that these two students remained at their home institution reflects the ideal outcome for tribal communities of retaining Native talent from their community. It is common for Native students who complete college degrees to leave their communities instead of returning home. As noted by Vilsack (2014), “retaining talented young people in Tribal communities remains a challenge.” Therefore, these two students provide a high level of impact for Indian Country because they continue to contribute their talents to the development of Native students.

The more college-educated Native American community members that remain on the reservation after completing their degrees, the stronger these communities ultimately become. As such, the earnings of graduates who find work on the reservation can be considered a benefit to Indian Country because their efforts and experience improve their home communities. It is critical for the growth and overall capacity of Native communities for the college-educated to stay on the reservation and contribute to the improvement of Indian Country, especially because community members fully understand the intricacies of their culture.

College Comparison

This section of the evaluation presents combined data that compares all the North Dakota Tribal Colleges according to number of graduates, average quarterly earnings, and employment trends. Data for this section was supplied by the State of North Dakota.

Figure 23 presents the number of graduates from each school for 2017 and 2018.

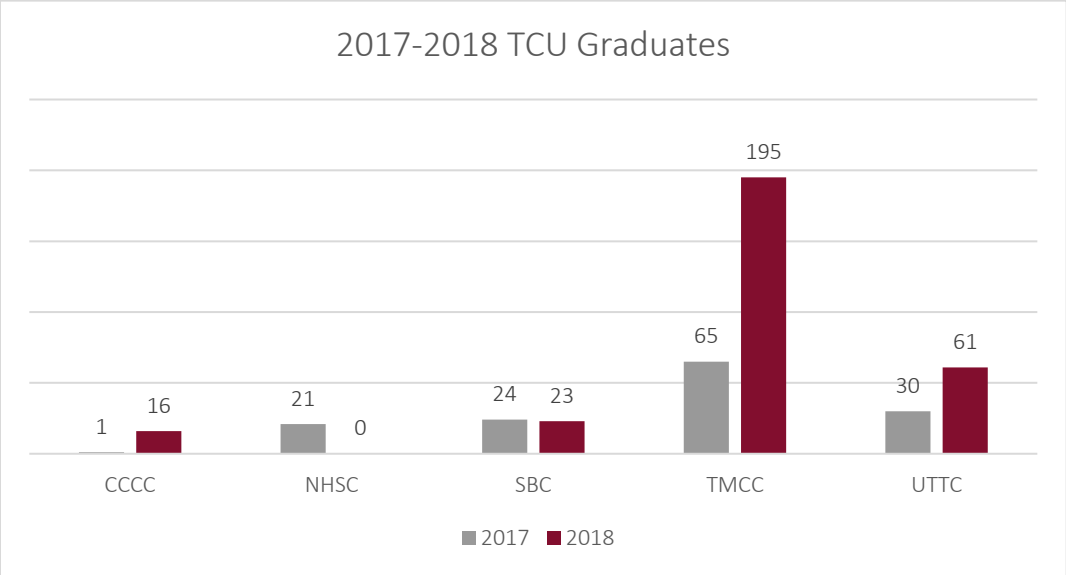


Figure 23. 2017-2018 TCU Graduates

The two schools with the top numbers of graduates are TMCC followed by UTTC. The school graduating the fewest number of students was CCCC.

Figure 24 presents graduation rates within 150% of normal time from the five North Dakota Tribal Colleges. Figure 24 shows the comparison.

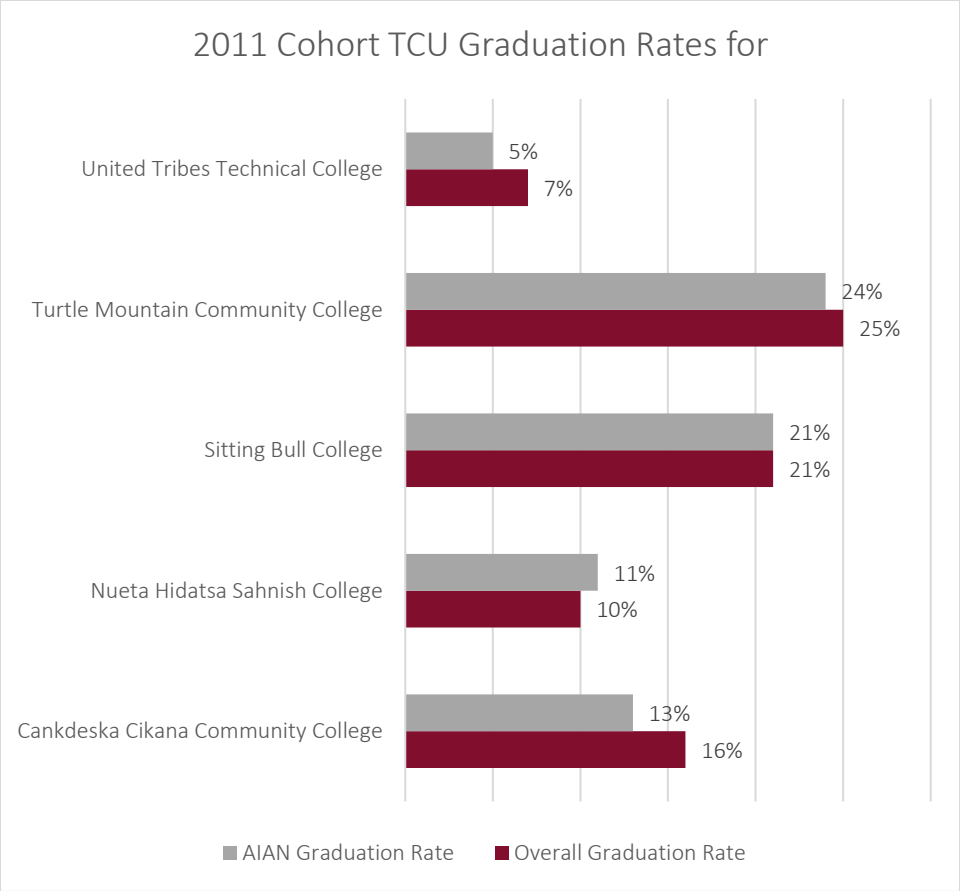
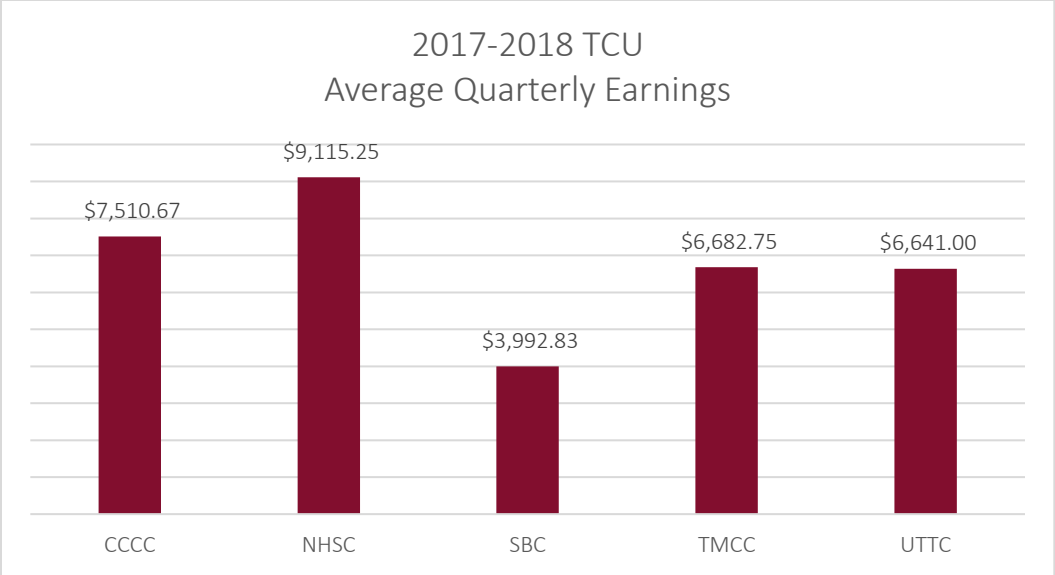


Figure 24. 2011 Cohort TCU Graduation Rates. Source: U.S. Department of Education (2019)

The average graduation rate for the 2011 cohort at Tribal Colleges in North Dakota is 15.8% while the average graduation rate for AIANs is 14.8. Graduation rates were highest at the 150% level at TMCC and SBC. The cohort fared the worst at UTTC.

Comparing the Tribal College numbers to those of two of the largest universities in North Dakota reveals that Tribal Colleges graduate students at a much lower overall rate. The graduation rate of AIANs is somewhat contested with both TMCC and SBC, exceeding the number at the University of North Dakota. The graduation rates of North Dakota Tribal Colleges do not compare favorably to North Dakota State University or the University of North Dakota. However, North Dakota Tribal Colleges, except for UTTC and NHSC, are performing consistently or better than their peers across the nation.

Figure 25 displays the average quarterly incomes for graduates of North Dakota Tribal Colleges.



****These numbers may be skewed due to the increased regional hourly rates or salary increases due to the oil industry. Employers such as Tribal Colleges need to pay more to be competitive in order to get employees.

Figure 25. 2017-2018 TCU Average Quarterly Earnings

NHSC graduates reported the highest quarterly earnings of all the Tribal Colleges. NHSC's average is based only on 2017 reporting. SBC reported the lowest numbers. The average earnings for graduates of Tribal Colleges is $6,788.50.

Figure 26 displays employment trends for Tribal Colleges by quarter. Quarters were counted following a given cohort's graduation in the spring, fall, or summer semester. At the time this data was reported in Spring 2019, the State only had data through the fourth quarter of 2018. Therefore, the most recently graduated cohorts would not have a full complement of data to report. Additionally, there is some incomplete data especially during the fourth quarter for some graduating cohorts.

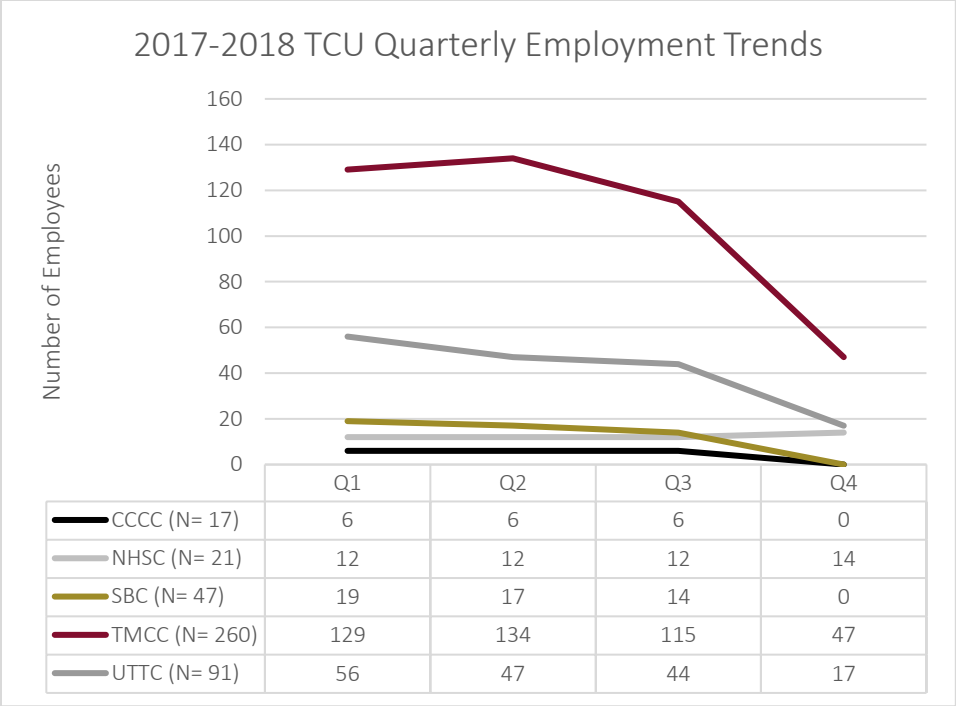


Figure 26. 2017-2018 TCU Quarterly Employment Trends

The highest number of employed graduates belongs to TMCC with 134 in Quarter 2. The trends show that the number of employed students from NHSC, TMCC, and UTTC were consistent four quarters after graduation. TMCC graduates retained employment from the Summer 2017, Fall 2017, and Spring 2018 semester. UTTC graduates from the Fall 2017 semester were able to retain their jobs, while NHSC graduates of the Spring and Summer 2017 cohorts remained employed. NHSC and CCCC did not report employment numbers for Fall 2017 graduates. Spring 2018 cohorts from SBC, CCCC, and UTTC only reported their first three quarter numbers. Summer 2018 graduates from TMCC only reported two quarters of employment data. Summer 2018 is the most recent graduate cohort included in this dataset.

The downward trend in quarterly employment should not be alarming. This trend is influenced heavily by the rolling reporting of employment data semester-by-semester. Cohorts that reported four quarters of employment data were stable, like NHSC's Spring 2017 cohort that ranged from seven to nine; NHSC's Summer 2017 cohort that reported five employed students each quarter; and TMCC's Summer 2017 cohort that ranged from 13 to 15. SBC and CCCC were the only two schools reporting only three quarters of data.

Alarming data includes less recent cohorts like SBC and UTTC Summer 2017 that did not report any employed graduates. An additional point of concern is that TMCC's Spring 2018 cohort went from 86 employed graduates to 79 and then 72 over three quarters. UTTC's Spring 2018 cohort displayed a similar trend decreasing from 41, 32, and then 28 employed graduates over

three quarters. Furthermore, not a single graduating cohort reported all graduates being part of the workforce. Overall, North Dakota Tribal Colleges only employed 50.92% of their graduates within the first quarter of graduation. Further investigation is warranted to determine why half of graduating students do not find work. Additional focus should also be dedicated to determining why low numbers of Tribal College graduates attain employment.

Return on Investment

Impact is best illustrated by calculating the ROI. These results compare benefits to costs using a Benefits/Cost Ratio (BCR) and ROI (Phillips, 2003). The BCR is the output of a cost-benefit analysis that compares the annualized economic benefits of a program to its cost (Phillips & Phillips, 2016). The formula for BCR is:

$$\text{BCR} = \frac{\text{Monetary Benefits}}{\text{Costs}}$$

ROI compares net benefits to costs and is expressed as a percent (Phillips & Phillips, 2016). The formula for ROI is:

$$\text{ROI (\%)} = \frac{\text{Net Monetary Benefits}}{\text{Costs}} \times 100$$

Net benefits are defined as benefits minus costs.

Both metrics (BCR and ROI) describe how benefits compare to costs. The BCR assumes gross benefits and is reported as a ratio; ROI assumes net benefits and is reported as a percentage.

A third metric that is valuable when describing the return on an investment is payback period. Payback period indicates the point in time when an investment will break-even. The formula is:

$$\text{Payback Period} = \frac{\text{Costs}}{\text{Monetary Benefits}}$$

Monetary Benefits

The ROI calculation requires performance metrics data to be converted to money. These monetary benefits are part of the calculation of the numerator of the ROI formula. The monetary values for this study were provided by the State of North Dakota which provided quarterly wage data for CCCC graduates from Spring 2018 over three quarters post-graduation. No data was available for the fourth quarter because it was not reported to the State of North Dakota at the time data collection for this evaluation was completed. No employment data was reported for the three students who graduated in the Fall 2017 and Summer 2018 semesters. Earnings varied from quarter to quarter for Spring 2018 graduates of CCCC. Therefore, all the

quarterly data provided was av eraged to calculate an overall yearly earnings average.

Table 13 shows the inputs to the numerator of the ROI formula.

Table 13. Data to Money Conversions

Units	Unit Value Avg 3 Qtrs Earnings	Annual Performance (P Δ)	Annualized Value
One Quarter Earnings (Spring 2018)	$7,510.67	4	$30,042.68

Benefits are defined as the average earnings of CCCC graduates based on quarterly earnings data for graduates from Spring 2018. The annualized change in performance column was calculated based on the total number of quarters (4) in a fiscal year.

The annualized value was calculated by multiplying the quarterly average earnings ($7,510.67) by the total number of quarters in a year (4). The resulting figure, $30,042.68, reflects the annual income for a graduate of the Spring 2018 cohort. However, this amount must be discounted by the annual income of a student who did not graduate college. Only the income differential can be attributed to the higher education. Most high school graduates in North Dakota earn minimum wage as shared in the TCU-ROI Convening in Denver, CO on July 9, 2019. According to the U.S. Department of Labor (2019), the minimum wage in North Dakota is $7.25. Annualizing this hourly figure yields annual income of $15,080 assuming 52 working weeks at 40 hours per week. The incremental value of graduating from CCCC as compared to graduating high school is calculated as follows:

$$\$30,042.68 - \$15,080.00 = \$14,962.68$$

Multiplying this amount by the number of employed graduates (six) yields the incremental value for the employed graduating cohort for one year following graduation as $89,776.08.

According to the Bureau of Labor Statistics (BLS) (September 20, 2018), the median number of years that wage and salary workers stay with their current employer is 4.2 years. BLS also reports an average annual wage and salary increase of 3%. Assuming these two variables, plus a discount rate of 3% (time value of money), a CCCC graduate earned $63,987.42 more than a person with a high school diploma when employed upon graduation in 2017 over 4.2 years.

For the six students who gained employment after graduation, that is a total added value to their income as follows:

$$\$63,987.42 \times 6 = \$383,924.52$$

Assuming five years on the job instead of 4.2, a CCCC graduate would earn $77,055.74 more than high school graduates.

$$\$77,055.74 \times 6 = \$462,334.44$$

Six employed graduates were used instead of 17 total graduates because no data was available for the additional 11 students. As mentioned by Phillips (1996) in the Guiding Principles of ROI studies, if no improvement data is available, it must be assumed that no benefit was realized. All the figures listed above were used in the calculations for the institutional BCR, ROI, and payback period.

Costs

While the benefits of graduation are linked to student income as a proxy for Indian Country impact, the costs are school operating expenses incurred to prepare the student for employment.

Table 14 represents the CCCC's 2018 fiscal year general fund budget and was used as the program costs to educate the total student enrollment of 242 students.

Table 14. CCCC Expenses

Item	Amount
ADMINISTRATION	$1,383,348
ACADEMICS	$332,451
TECHNOLOGY/DATA COLLECTION	$129,738
FRINGE (35%)	$645,938
AUDIT SERVICE (includes annual & 401K audit)	$33,000
ACCOUNTING, IBM (No HR in 2017)	$15,445
REGISTRAR/FINANCIAL AID	$9,665
ACADEMIC Travel	$5,000
FA/REG Travel	$5,000
ADMINISTRATION/GENERAL Travel	$20,000
FACULTY/STAFF DEVELOPMENT	$5,000
STIPENDS (12 mtgs @ $75) + (6 Mtgs @ $50)	$6,000
TRAINING/TRAVEL	$7,000
MEETING EXPENSES	$4,596
AIHEC	$25,834
ND ASSOC TRIBAL COLLEGES	$5,000
HIGHER LEARNING COMMISSION	$4,368
PO BOX FEES (CCCC & Library)	$230
DEVILS LAKE CHAMBER OF COMMERCE	$245
SECRETARY OF STATE (CORPORATE ANNUAL FEE)	$25
CREDIT CARD FEES	$2,000

Item	Amount
FLEX ADMINISTRATIVE FEES	$1,000
TRIBAL COLLEGE JOURNAL (Digital Access & Subscriptions)	$1,425
RMAFSAA (Financial Aid)	$150
NDASFAA (Financial Aid)	$150
NDACRAO (Registrar)	$150
BUILDING Insurance (HS included in 2017 budget)	$39,650
AUTO & GENERAL LIABILITY Insurance	$35,000
Grand Total	**$2,717,408**

The total cost provided in Table 14 was allocated across all students to determine the average 2018 cost per student.

$$\frac{\$2{,}717{,}408 \text{ total cost}}{242 \text{ students enrolled}} = \$11{,}228.96 \text{ cost per student}$$

One-year cost to educate the 2018 cohort is $190,892.32 ($11,228.96 x 17 total graduates).

Institutional ROI

The objective for this study was to determine the ROI of investing in the tribal college and due to resource and data availability, one year was selected as the evaluation time period. Outlined below are the calculations for BCR and ROI based on the program (monetary) benefits and costs calculated previously in this report for one-year after graduation for the employed members of the graduating cohort.

The BCR of attending CCCC for one year of benefits and one year of costs is:

$$\text{BCR} = \frac{\$89{,}776.08}{\$190{,}892.32} = 0.47$$

The BCR of 0.47 indicates that for every dollar invested, 47 cents of the original dollar invested is returned in gross benefits.

The ROI calculation for attending CCCC considering one year of benefits and one year of costs for the employed graduates is:

$$\text{ROI}\ (\%) = \frac{\$89{,}776.08 - \$190{,}892.32}{\$190{,}892.32} \times 100 = -52.97\%$$

The -52.97% result is interpreted that for each dollar invested in CCCC, that dollar is lost plus another 53 cents. Given this negative result, it is important to know how long it will take for the investment in the employed graduates to break even. This is illustrated by the payback period formula. The calculation for the payback period for the employed members of the graduating cohort for one year of costs and one year of benefits is:

$$\text{PP} = \frac{\$190{,}892.32}{\$89{,}776.08} = 2.13 \text{ Years}$$

The 2.13 payback period means that the income differential earned by the graduating cohort would breakeven with the investment made in their education after 2.13 years of employment. In 2.13 years, CCCC will recognize an ROI of 0% based on incremental student wages and one year of costs.

The BCR of attending CCCC if a graduate is employed with 4.2 years of benefits and one year of costs is:

$$\text{BCR} = \frac{\$383{,}924.52}{\$190{,}892.32} = 2.01$$

The BCR of 2.01 suggests that for every dollar invested, $2.01 are returned in gross benefits.

The ROI calculation for attending CCCC if a graduate is employed with 4.2 years of benefit and one year of costs is:

$$\text{ROI (\%)} = \frac{\$383{,}924.52 - \$190{,}892.32}{\$190{,}892.32} \times 100 = 101.12\%$$

The 101.12% is interpreted that for each dollar invested in CCCC, the original dollar invested is returned along with another $1.12.
Table 15 presents a recap of the BCR and ROI calculations for various job tenures using one year of costs for the graduating cohort.

Table 15. Labor BCR and ROI Calculations with One Year of Costs for Graduating Cohort

	Benefits	Costs	BCR	ROI
1 year	$89,776.08	$190,892.32	0.15:1	-84.77%
4.2 years	$383,924.52	$190,892.32	0.65:1	-34.88%
5 years	$462,334.44	$190,892.32	0.78:1	-21.57%

ROI Institute's guiding principles require the most conservative approach to calculating the ROI for a program. To ensure this principle is met, it is important that we include all costs of educating the graduates for the entire time they attended CCCC. The tenure for a student to graduate is 150% of normal time as shared by Jennifer Janecek-Hartman, Ph.D., Executive Director, North Dakota Association of Tribal Colleges. Degrees were assigned values of either one or two years to complete and then multiplied by a factor of 1.5 to account for more realistic completion rates at 150% of typical completion time. Therefore, the two-year degree generally takes three years to complete and the one-year certificate takes 1.5 years. In total, it

took the 2017-2018 cohort 52.5 years to complete their degrees. Using the cost per student previously calculated of $11,228.96, the total cost to educate and graduate the 2018 cohort is:

$11,228.96 x 52.5 years or $589,520.40

BCR using 4.2 years of benefit and total costs is:

$$\text{BCR} = \frac{\$383{,}924.52}{\$589{,}520.40} = .65$$

The BCR of .65 indicates that for every dollar invested, 65 cents are returned in gross benefits.

The ROI calculation for attending CCCC if an employee remains employed for 4.2 years is

$$\text{ROI (\%)} = \frac{\$383{,}924.52 - \$589{,}520.40}{\$589{,}520.40} \times 100 = -34.88\%$$

The -34.88% indicates that for each dollar invested in CCCC, that dollar is lost plus another approximate 35 cents.

Based on the negative ROI, it is critical to determine the payback period. Assuming one-year benefits and total costs, the payback period is:

$$\text{PP} = \frac{\$589{,}520.40}{\$89{,}776.08} = 6.57 \text{ Years}$$

The payback period for total costs to educate the cohort is 6.57 years and generates ROI of 0%.

Table 16. Labor BCR and ROI Calculations with Total Costs for Graduating Cohort

	Benefits	Costs	BCR	ROI
1 year	$89,776.08	$589,520.40	0.15:1	-84.77%
4.2 years	$383,924.52	$589,520.40	0.65:1	-34.88%
5 years	$462,334.44	$589,520.40	0.78:1	-21.57%

Student ROI

Another important facet to calculating the benefits of attending a Tribal College is including the amount of funding and other support that students receive while in school. Using the income differential between CCCC graduates and AIAN high school graduates tells the story of benefits realized after graduation. Items such as scholarships, tuition waivers, student travel, and utilities fall into this category of benefits. Only the most obvious categories were included in this calculation as the level of detail on the CCCC budget was at a high level.

The average amount of financial aid received by CCCC students was also included per the reporting of the U.S. Department of Education (2019). This part of the calculation would benefit from the involvement of CCCC staff in identifying the appropriate portions of the budget to include. The total benefit was prorated by the total 2017 CCCC enrollment (242). This figure was then multiplied by the total number of years graduates in the cohort took to complete their degrees at 150% of normal time (52.5). The final amount of student funding and support was calculated to be $156,824.33 over the time the 17 graduates took to finish their degrees at CCCC.

The final benefits calculations, including both income differential and student funding and other support, are listed according to the number of years a graduate will stay at his or her job as follows:

- 4.2: $540,748.85
- 5: $619,158.77
- 10: $1,155,131.03
- 15: $1,776,469.73
- 20: $2,496,771.35

Determining the average cost of attending CCCC for the 2017-2018 graduate group requires an average yearly cost of attendance, as well as the number of years it should have taken the cohort to complete their studies. The U.S. Department of Education (2019) provided the average net price of attending CCCC for full-time, first-time degree/certificate-seeking undergraduates receiving grants or scholarship aid. During the 2014-2015 academic year, the cost was $7,049; during 2015-2016, it was $8,088; and during 2016-2017, it was $5,271. The average of these figures, $6,803, was used to calculate the cost of attending CCCC.

Since 17 students graduated from CCCC in 2017-2018, the number of years typically required to complete their degrees (52.5) was determined based on the degrees awarded. The following calculation represents the total investment made by the graduates in their education at CCCC:

$$\$6,803 \times 52.5 = \$357,157.50$$

Calculating the total cost of lost wages involves multiplying the average yearly earnings of a high school graduate by the total number of years the 2017-2018 CCCC graduates spent in school. The 17 students spent a combined total of 52.5 years completing their degrees. The average annual earnings for a high school graduate was determined to be $15,080.00 earlier in this report. Therefore, the total lost earnings are determined by the following formula:

$$52.5 \times \$15,080.00 = \$791,700.00$$

When the total cost of attendance is added to the total cost of lost earnings, the resulting figure is $1,148,857.50. This figure was used to calculate the student BCR and ROI presented in Table 17. Note that the benefits used in this section were listed in Monetary Benefits.

Table 17. Student BCR and ROI Calculations

	Benefits	Costs	BCR	ROI
1 year	$107,698.86	$1,148,857.50	0.09:1	-90.63%
4.2 years	$540,748.85	$1,148,857.50	0.47:1	-52.93%
5 years	$619,158.77	$1,148,857.50	0.54:1	-46.11%
10 years	$1,155,131.03	$1,148,857.50	1.01:1	0.00%
15 years	$1,776,469.73	$1,148,857.50	1.55:1	54.63%
20 years	$2,496,771.35	$1,148,857.50	2.17:1	117.33%

The BCR and ROI figures are favorable to the students graduating from CCCC. The projections displayed in Table 17, are consistent with several studies that examined the value of a college degree. Lobo and Burke-Smalley (2018) reported that the average student can expect to recover the costs of attending college for 4 years in 13 years and in 31 years for 6 years in college. Most students finished their degrees within 4 years even at 150% of typical graduation time. In addition, Daly and Bengali (2014) found that it takes less than 20 years for the average college graduate to recover the cost of attending college. Students will breakeven after 10 years of employment based on the money they invest in their education at CCCC. There are also various intangible benefits of being a CCCC graduate that are reflected in the short-term.

Intangible Benefits

Intangible benefits are benefits associated with a program that were not converted to monetary values but still provide value to the overall project (Phillips & Phillips, 2015). These benefits can include those associated with the institution, the students, and society at large.

While the investment in CCCC is not positive for student income, nor should there necessarily be an expectation that it will do so, benefits from the TCU reach beyond income. Student graduation and attainment of jobs is a central tenant of the college. One question is, are those students contributing back to the community while still having more financial stability? Based on the research, the answer would be yes. Graduates of CCCC are giving back. They are working at the school as well as other areas. Some are continuing their education and in doing so, teaching others the American Indian culture and value system. They are helping their neighbors save money while saving money themselves by using the skills they have learned while attending CCCC.

A second question is, would the community be better off without CCCC? The answer to this question is no. The TCU is helping improve the community. Student legacy is paying off.

Mothers, fathers, sisters, and brothers are attending school and gaining skills. If they do not have jobs today, they will have jobs in the future. By embracing their culture and living their values, their network is growing, and the “invisible people”, as some graduates refer to themselves, will no longer be invisible except by choice. teaching others the American Indian culture and value system. They are helping their neighbors save money while saving money themselves by using the skills they have learned while attending CCCC.

A second question is, would the community be better off without CCCC? The answer to this question is no. The TCU is helping improve the community. Student legacy is paying off. Mothers, fathers, sisters, and brothers are attending school and gaining skills. If they do not have jobs today, they will have jobs in the future. By embracing their culture and living their values, their network is growing, and the “invisible people”, as some graduates refer to themselves, will no longer be invisible except by choice.

The Impact to Indian Nation is best shared by those who have lived the story. The next section represents key responses to questions asked in the talking circles.

Voices

On April 2, 2019, Dr. Jen Janecek-Hartman and Dr. Patti Phillips listened to 10 graduates and current students as they described their experience attending and graduating from Cankdeska Cikana Community College (CCCC). They gleaned that CCCC graduates and current students view CCCC and tribal colleges as safe places, where instructors care about students, and it is hard for one to fail. CCCC is a community of trust, caring, and relationships. Graduates thrive in their jobs and are successful in the businesses they establish during school and upon graduation. These are the sentiments shared during the talking circles. Editor's notes have been added in brackets for context.

Tell us about your experience going to school at CCCC.

I attend school here because it is close to home; easier, comfortable; I know people. They have funding for mature students – students who want to start over. I have persevered with the help of the school – instructors and other students.

I feel the same way – at CCCC I have family and friends.

I came here because my probation officer told me to. The PO told me either to get a job or go to school. I enrolled at CCCC and it changed my approach to life. While I still have problems and lapses from time to time, I always come back. The door is always open to me, where other doors have been closed or will close.

I came to CCCC because it was at home. I went to Devil's Lake High – which was more white-people focused. I like CCCC for all the reasons others said, but also for the extracurricular activities such as athletics competitions.

I had not planned to go, but it has turned out great.

The faculty know your name. TCU culture; Spirit Lake Culture, and Dakota language. You learn about your culture, not someone else's. In fact, at my high school the only language was Spanish. I did not do so well. [Here, because the language was "her language" she has now taken three courses in the Dakota language.]

I work on the reservation – and you must be in school to work there. I have an associate degree in nursing and now I am in the bachelors' degree at UND because of a faculty member (from CCCC) who helped me transition. It is hard to transition. We are the invisible people.

How have you applied what you learned during your college experience?

My behaviors are changing as a result of going to CCCC. I am staying solid. I show up when I should; I am persevering, where, without CCCC, I would not have. I have learned to be patient.

I have learned to give back and help neighbors. I have developed skills – mechanic skills – and I work on cars in my backyard – I help members of the community when they need help – I apply my skills.

I have not had a chance to apply what I learned. I got a degree last year – with HVAC and jumped into carpentry. [He wants to one day move out of the area.] My wife is also wrapping up a degree. I have fixed a few A/C units for friends and I have saved a little money by handling things myself. My friend invited me to go to a peer support conference. I may want to go down that path – to help people like me. My courses have made him more self-sufficient.

The school opened doors. My public speaking course has helped me be more interactive with culture and language.

I started as an intern and have applied everything I have learned in the Natural Resource Management program.

I studied graphic arts and apply it every day.

I have two associate degrees – now studying social work at UND. I applied what I learned just today in class. I embrace being an indigenous woman, but it gets taxing always being the teacher. At UND, I am invisible as an Indian woman.

I am a math tutor. I always help people with core courses and APA formatting for papers.

I apply the social aspect of learning and now interact differently.

I wanted to do "auto stuff" but my brother influenced me to study graphic design and apply it in our business. I plan to study videography.

How much credit do you give to your attendance at CCCC to your accomplishments?
100% contribution to attending school.

School could do more to help HVAC students to get jobs – possibly hold job fairs. The school needs to be more of a bridge.

Community says they want something; college creates it and then the community will not come through.

A lot of credit. I would have struggled at other schools. The school opened doors. I give back by working at the school. My mother, aunt, uncle also went to CCCC.

CCCC gets 100% credit for my accomplishments. I studied Natural Resource Management. I currently keep up with landscaping on campus. I till for people in the community and conduct

classes on food preservation (a lost art). I also teach people how to eat healthy and give hands-on workshop on cooking.

A lot of credit – it helped me find what I like to do – and I do what I love.

A lot of credit. I learned how to network better. Indians don't like to talk to people. School always teaches you how to maneuver through life.

TCU does not prepare you so much for the transition. High school prepared me more for a four-year college – it was more of a bridge. Here is more about culture – I give it 100% for that.

What impact has the application of knowledge, skill, and information gained by attending tribal college had on you, your organization, and your community?
Communicate with people.

Learn skills; now thing things through more clearly; write papers.

Find identity.

CCCC has had a huge impact – I help others.

Finding my direction – switching degrees – getting a job. Recruiting others.

CCCC is a safe space. I still come out and visit. CCCC opened doors. Faculty and staff are interested in what you are doing.

Decision on what I wanted. Hard for me to learn, but I could take a course until I learn.

Our business performance has improved.

Had I not gone to Tribal College I would have taken up a trade to get a job. Today, I look at work as a career – more professional.

The page is intentionally left blank.

Conclusions

This section presents conclusions drawn from the evaluation, which are presented according to the TCU-ROI conceptual model.

Impact of Tribal Colleges on Indian Country

At Level 0, Count/Number of Participants, most of the students enrolled at CCCC are AIANs. High enrollment of AIANs at CCCC is a historical trend; this indicates that resources being dedicated to educating people from Fort Totten and surrounding areas are going to those who need them most. These resources should have a positive influence on Indian Country because many AIANs are enrolled and completing their degrees. Graduates are predominantly completing liberal arts and business administration degrees.

At Level 1, Student Reaction Satisfaction, the institution is excelling in the areas of Academic Services and Academic Advising/Counseling. During Spring 2017 and 2018, CCCC also performed well in Registration Effectiveness. The range for these average scores is very close, only varying from 6.07 to 6.29. These scores are consistent and indicate a high overall level of satisfaction. As mentioned earlier in the report, all the satisfaction measures dropped from Spring 2017 to Spring 2018. The range of these decreasing satisfaction scores is from 0.1-0.24. Again, these are not sizable gaps and the change is not concerning. Further data should be added to this analysis to determine if there are any issues when it comes to student satisfaction at CCCC.

At Level 2, Student Learning, the top performing classes varied greatly by semester. The list of courses in which students performed the best include art, social work, and DS. The one area that consistently scored highest was CDL. The consistent performance of students in CDL courses is a credit to CCCC's status as a community college. The Professional Driving certificate program is performing well, and students are well prepared for the challenges they find in the workforce upon graduation. The pass rates of ASC courses are notable because they include typically challenging classes, including pre-algebra (41% pass rate) and intermediate algebra (51% pass rate). While there is ample opportunity for growth, the fact that they are among the courses with the highest pass rates is an encouraging statistic.

Results at Level 3, Experiential Learning and Internships, indicate that students and graduates apply what they learned either in the classroom or daily on the job and in the community. In addition to applying knowledge, skill, and information, graduates teach others the culture and value system of which they are proud.

This evaluation found that, at Level 4, Business Impact, CCCC graduates earn more than AIAN high school graduates in their area. CCCC graduates also do not compare favorably to residents with college degrees from schools outside the immediate area. This finding should be interpreted with a measure of caution; the lower incomes are likely associated with the

graduates staying on the reservation to work. Incomes on the reservation have historically lagged incomes in the rest of the country. Therefore, the incomes of AIANs who are college-educated should be expected to lower when compared to people outside the immediate area. Maintaining talent within Native communities is critical to having a positive impact in Indian Country.

Efficacy of TCU-ROI Conceptual Model

The TCU-ROI Conceptual Model is a good approach to demonstrating the impact of TCUs. Built on a proven methodology that is applied across all sectors and all type of programs, this approach has been modified to reflect American Indian values. While this case study was an initial application of the model, future applications should leverage the more robust methods inherent in the process. Factors that are critical to success of future applications include:

- Clearer definition of measures other than graduate rates and income. These measures may include time to graduation, placement rates, student career satisfaction, and job performance after graduation.
- Targets for comparison. While the case study offers results and, in some cases, a basis for comparing those results, performance with any measure is only meaningful when making meaningful comparisons.
- More methodical approaches to isolate the effects of TCUs and the programs they offer. In this case study, a very broad estimate of contribution was assumed. Using a more structured approach to estimates, as used with the ROI Methodology®, will provide a more reliable indicator of TCU contribution. Other approaches such as control/comparison groups, trendline analysis, or the development of mathematical models to describe attribution will generate credible and reliable outcomes.

Recommendations

This section presents recommendations based on the conclusions drawn in the previous section of this evaluation.

Opportunities for CCCC

According to the Level 1 results, CCCC should investigate ways to further integrate Native Languages into the courses that it teaches. Of all the satisfaction measures collected regarding cultural integration, language was the lowest one. This is a challenge since Native Languages do not easily translate over to technical western terms. However, this is one area in which CCCC can improve its course offerings especially when focusing on classes associated with Native American Studies.

Experiential learning is critical to gaining knowledge for Native Americans. This evaluation found that students who were able to engage in internships benefited significantly from them. Further internship opportunities should be provided to CCCC students both on and off the reservation in the fields they are studying. Such an expansion will likely require establishing Memoranda of Understanding (MOU) with various partners. Providing more internship opportunities for students will further prepare them with the first-hand knowledge they need to ensure their success after school.

Perhaps the most significant opportunity to improve student learning can be found in classes offered by Math and Science (MS). Of the two core subjects, CCCC students overwhelmingly struggle with math classes. In Fall 2016, math classes accounted for 65% of the failing grades in MS. Elementary Algebra had 25% of the failing grades while Foundations of Mathematics had 15%. Note that 22% of the Fs in MS came from Biology I & Lab. In Spring 2017, math classes were 96% of the failing grades in MS. Elementary Algebra represented 54% of the failing grades for that semester.

Generally speaking, CCCC is already aware of the issues students have with math as it states in the tutoring section of its website. This awareness and the existing tutoring services are likely a great benefit to students, but more solutions need to be developed to decrease the high number of failing grades in these classes. Utilization of tutoring services is not part of this evaluation; however, this could impact the persistence of these student struggles. Further student support services should be offered to assist students with their math courses.

As this is the first time that an ROI study has been conducted with a Tribal College, there are numerous opportunities for CCCC and other Tribal Colleges to pursue that can improve the fidelity of this work. The first opportunity is to work with the American Indian College Fund and other Tribal Colleges to standardize the collection of common datapoints along the 5 levels. The opportunity was identified by conducting these initial ROI studies and finding high levels of inconsistency as far as the details of similar datapoints and how some data are presented. For

example, CCCC focuses specifically on culture in their student evaluations where other Tribal Colleges do not specifically assess this important feature of a tribally oriented education.

Another difference that was identified is that different Tribal Colleges present similar data, such as enrollment demographics, inconsistently; some present many details while others are very general. Inconsistencies in the type of data that are collected and differing details of common datapoints make it difficult to compare performance across institutions. The introduction of common datapoints at each of the five levels will allow the TCU-ROI Model to generate consistent data that can inform decision-making at various levels. The American Indian College Fund can play a key leadership role in establishing these datapoints for Tribal Colleges as a primary stakeholder and financial contributor to Tribal Colleges.

Additionally, each individual institution should have the opportunity to define measures that are specific to their local context. As common datapoints are identified and collection methods are implemented, it is critical to respect the people and communities from which data are being collected. This means assuring data collection methods are sensitive to culture by involving tribal institutional review boards in the approval of protocols. It would also be beneficial to involve tribal councils in the approval of such data collection protocols.

Lastly, respect for data sovereignty can be exemplified by the ways data are shared with local stakeholders. Data should not only be owned by a given Tribal College or by the American Indian College Fund; it should also be shared with tribes. This assures the people can own their data and use it to further community interests.

Another opportunity specifically for Tribal Colleges is to improve their knowledge of graduate performance in the workforce. The reason that Tribal Colleges should be involved in the monitoring of graduate performance is because the State of North Dakota can only track graduates who stay within North Dakota. The graduates who leave North Dakota are effectively lost from the state's perspective and this negatively influences the real-world impact being reported for Tribal Colleges.

Tribal Colleges can improve the tracking of graduates by establishing relationships with alumni via alumni offices. Alumni offices can keep track of alumni contact information, employment status, job function, and pay ranges. This data will improve the fidelity of the ROI Methodology. It will also ensure that Tribal Colleges are telling their complete story of success without leaving out the impact of students who leave home to make a difference for other AIAN communities and the world at large.

Opportunities for Future Research

Three specific questions that can be used to guide future research were left unanswered by the current study:

1. What programs offered by Tribal Colleges result in the best employment outcomes?
2. Why are large portions of students from graduating cohorts failing to gain employment after finishing school?
3. What do employers think of the on-the-job performance of Tribal College graduates?

Answering the first question involves a level of detail in the data that was unavailable to the researchers conducting this study. The State of North Dakota provided data for employment and quarterly earnings in aggregate form. While this data are useful in calculating the overall differential in wages between graduating cohorts and high school graduates, it is not possible to make a connection between specific graduates and employment.

A useful outcome of a study on the ROI of attending a Tribal College is determining employment opportunities as they relate to completed degree programs. For example, one would think that students graduating with a degree in Liberal Arts would have difficulties finding work, whereas someone with a degree in Business Administration would easily find employment. Information such as this would be quite helpful to Tribal Colleges because they offer many associates degrees and certificates. However, these types of determinations were not possible in this first ROI study with Tribal Colleges. A correlation between degree completed and employability should be part of future studies.

Answering the second question involves a robust understanding of local context that did not result from this study. Potential explanations for the low employment percentages of graduates from Tribal Colleges include family commitments and saturation. There are many family commitments that influence a student's ability to work. Caring for elders, children, or sick relatives is demanding and can be a full-time job. When such situations occur, it is practically impossible to also maintain a full-time job. There is very little Tribal Colleges can do in this situation. Family should always come first and maintaining strong family bonds is of the upmost importance.

Saturation is an issue Tribal Colleges can work with effectively. Saturation refers to the local area being overwhelmed with people of a specific specialty, and many people with similar qualifications compete for only a few jobs. Tribal Colleges can help address this issue by keeping tabs on opportunities both within their communities and also within North Dakota and the surrounding areas. It may not always be feasible for students to leave their home communities for work, but students should have the opportunity to consider various employment opportunities upon graduation. Building relationships with local and state industries is key to providing graduates with the information they need to explore appropriate employment opportunities. Further strategies to facilitate the employment of graduates can also be gleaned by answering the first question regarding the employment outcomes of graduates with various degrees.

Answering the final question involves establishing continuing dialogue with employers of Tribal College graduates. Tribal Colleges work to prepare their students to enter the workforce. As

such, the opinions of employers regarding the on-the-job performance of graduates is of the upmost importance when it comes to evaluating the extent to which Tribal Colleges are preparing their graduates to succeed in the workforce. Including the perspective of those most familiar with graduate on-the-job performance can benefit future studies by providing critical feedback on which job-based skills are strengths and weaknesses of Tribal College graduates.

This information can easily be used to improve curriculum by tracing skills back to courses within a program of study for a given degree, and ultimately making changes as needed to improve the probability of graduate success in the workforce. Talking circles or surveys should be considered to collect this valuable data. Tribal Colleges can also engage graduate employers by working with them to develop more internships and opportunities to engage in experiential learning for students. Involving the voices of employers in the evaluation of graduate's success will ultimately validate raw employment data and represents a rich opportunity for research and program improvement.

Dissemination of Results

Research without communication adds no value. That is why Guiding Principle 12 of the ROI Methodology exists. Results of an evaluation must be communicated. This research is worth dissemination. It:

- Tells a story about the success students have by attending a TCU.
- Offers opportunities for the TCUs involved in the research to improve processes, measurements, and measures.
- Provides a framework and model for other TCUs to apply as they try to demonstrate the impact of their efforts.

Initial dissemination efforts will include presentations and publications.

Presentations

The first presentation will be at the TCU-ROI Convening in Denver, Colorado on July 9, 2019. The presentation will be made by Dr. Jennifer Janecek-Hartman, Executive Director of the North Dakota Association of Tribal Colleges; Dr. Damien Sanchez, Senior Consultant with ROI Institute, Inc.; and Dr. Patti Phillips, CEO and Co-Founder, ROI Institute, Inc.

A proposal has been submitted for Dr. Janecek-Hartman and Dr. Phillips to present at the September 6-8, 2019, United Tribes Technical College 50th Annual International Pow Wow in Bismarck, North Dakota.

Consideration should also be given to present at the annual conferences of the Association for Talent Development, the International Society for Performance Improvement, and the Academy of Human Resources Development.

Publications

An initial publication to consider is *Tribal College: Journal of American Indian Higher Education*. This journal is appropriate for this type of work. *Native Business* may also be an option as the alignment between business and the TCU is strong, according to one talking circle member. A third journal, *The American Indian Quarterly*, is a peer-reviewed, interdisciplinary journal.

In addition to publishing the research findings, portions of the findings can be disseminated as articles. For example, users of the ROI Methodology® would be interested in learning about talking circles. Publishers who focus on diversity and inclusion would be interested in the influence that attending TCU has on tolerance.

This research is rich with content. Each type of data and each technique employed represents a focal point for an article, presentation, or even a marketing effort. Prior to developing a dissemination strategy, it will be important to get a clear focus on the payoff opportunity and

the specific measures that should improve by investing in developing presentations and publications. Once the objectives are clear, dissemination will align with the needs of the TCUs and can be designed to have an impact on Indian Country.

References

American Indian College Fund. (2018a). *2017 Return of Organization Exempt from Tax (Form 990)*. Denver, CO.

American Indian College Fund. (2018b). *Annual Report 2017-2018.* Denver, CO.

American Indian College Fund. (2018c). *Our Work*. Retrieved Dec 10, 2018, from https://collegefund.org/ourwork/

Butrymowicz, S. (November 26, 2014). "The Failure of Tribal Schools." *The Atlantic.* Retrieved March 2, 2019, from https://www.theatlantic.com/education/archive/2014/11/the-failure-of-tribal-schools/383211/

Carnevale, A. P., Fasules, M. L., Quinn, M. C., Peltier Campbell, K. (2019a). *Born to Win, Schooled to Lose: Why Equally Talented Students Don't Get Equal Chances to Be All They Can Be.* Retrieved from https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/FR-Born_to_win-schooled_to_lose.pdf

Carnevale, A. P., Ridley, N., Cheah B., Strohl, J., and Peltier Campbell, K. (2019b). *Upskilling and Downsizing in American Manufacturing*. Retrieved from https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/Manufacturing_FR.pdf

Center for Indian Country Development. (2019). *Fort Berthold Reservation.* Retrieved Jan 25, 2019, from https://www.minneapolisfed.org/indiancountry/resources/reservation-profiles/fort-berthold-reservation

Daly, M. C., & Bengali, L. (2014). Is it still worth going to college?. *FRBSF Economic Letter*, *13*, 2014.

Janecek-Hartman, J. (2007). *Tribal College and University Return on Investment (TCU-ROI) conceptual model.* (Doctor of Philosophy Dissertation), Capella University.

Lobo, B. J., & Burke-Smalley, L. A. (2018). An Empirical Investigation of the Financial Value of a College Degree. *Education Economics*, *26*(1), 78–92. https://doi-org.libproxy.unm.edu/http://www.tandfonline.com/loi/cede20

Musu-Gillette, L., de Brey, C., McFarland, J., Hussar, W., Sonnenberg, W., & Wilkinson-Flicker, S. (2017). *Status and Trends in the Education of Racial and Ethnic Groups 2017*. Washington, DC: National Center for Education Statistics.

National Center for Education Statistics. (2008). *Status and Trends in the Education of American Indians and Alaska Natives: 2008.* Retrieved January 11, 2019, from https://nces.ed.gov/pubs2008/nativetrends/ind_7_3.asp

Phillips, J. J. (2003). *Return on Investment in Training and Performance Improvement Programs* (2nd ed.). Amsterdam: Butterworth-Heinemann.

Phillips, P. P., & Phillips, J. J. (2015). *Making Human Capital Analytics Work: Measuring the ROI of Human Capital Processes and Outcomes* (1st ed.). New York: McGraw-Hill.

Phillips, P. P., Phillips, J. J., Paone, G., Gaudet, C. (2019) *Value for Money: How to show the Value for Money for All Types of Projects and Programs in Governments, Nongovernmental Organizations, Nonprofits, and Business.* Hoboken, NJ: Wiley-Scrivener.

State of North Dakota. (2017). *The Pay Off: Earnings by Education.* Retrieved December 11, 2018 from http://www.nd.gov/cte/crn/mylife/image/earnings.htm

U.S. Bureau of Labor Statistics. (2018). *County Employment and Wages in North Dakota — Third Quarter 2017*. (18-346-CHI).

U.S. Department of Education. (2017). *Fall enrollment and degrees conferred in degree-granting tribally controlled postsecondary institutions, by state and institution: Selected years, fall 2000 through fall 2016, and 2014-15 and 2015-16. Integrated Postsecondary Education Data System (IPEDS).* Retrieved Jan 24, 2019

U.S. Department of Education. (2019). *IPEDS - Use the data.* Retrieved January 24, 2019, from National Center for Education Statistics https://nces.ed.gov/ipeds/use-the-data

U.S. Department of Labor (2019, July 1, 2019). "Consolidated Minimum Wage Table." Retrieved July 25, 2019, from https://www.dol.gov/whd/minwage/mw-consolidated.htm.

Vilsack, T. (2014). *Expanding Opportunity in Indian Country.* Retrieved from https://www.usda.gov/media/blog/2014/03/19/expanding-opportunity-indian-country

Appendices

Appendix A. Definitions, Terms, and Acronyms

Degree Names

Associate of Arts
Business Administration
Dakota Studies
Early Childhood Education
Liberal Arts
Social Work

Associate of Science
Health, Physical Education & Recreation (HPER)
Natural Resource Management
Pre-Engineering
Pre-Nursing

Associate of Applied Science (ASS)
Fine Arts
Office Technology

Certificates (CERT)
Carpentry
Office Technology
Professional Driver Training - CDL

Division Acronyms

ASC – Academic Skills Courses
ACCT – Accounting
AM – Advanced Manufacturing
ART – Arts
BADM – Business Administration
BIOL – Biology
BOTE – Business Office Technology & Education
BUSN – Business
CARP – Carpentry
CHEM – Chemistry
COMM – Communications
CAD – Computer Added Design
CIS – Computer Information Systems
CSCI – Computer Science
DS – Dakota Studies
ECON – Economics
EC – Early Childhood Education
ENGL – English
ENGR – Engineering
ENS – Environmental Science
GEOL – Geology
HPER – Health, Physical Education and Recreation
HIST – History
HUM – Humanities
IS – Indian Studies
MATH – Math
ME – Mechanical Engineering
NAT – Natural Resource Management
NUTR – Nutrition
PHRM – Pharmacy
PHYS – Physics
POLS – Political Science
CDL – Professional Driver Training
PSYC – Psychology
SWK – Social Work
SOC – Sociology
SOIL – Soil Science

Appendix B. Talking Circle Protocol

Themes, Key Questions, Collection and Sources for Data Collection for the TCU-ROI Model (Adapted from Phillips, 2005).

Demonstrating Value:
Tribal Colleges & Universities ROI Study

Talking Circle Notes

Date: _____

College: _____

Number in Attendance: _____

Facilitators: _____

Objective

The purpose of the Talking Circles is to hear graduates describe their Tribal College experience and the impact it has had on traditional and contemporary American Indian cultural values and Indian Country at large. *The tables below serve as a guide (Janecek-Hartman, 2007)*

Themes, Key Questions, Collection and Sources for Data Collection for the TCU-ROI Model (Adapted from Phillips, 2005)

Category	Key Questions	Data Collection	Data Sources
Counts	How many participants enter or utilize the program? How many participants are served or complete the program? Success rates?	Sign in sheets, registration, etc.	Program Leaders
Student Satisfaction	What relevance does the program have to job or mission? What is the importance of the program to job or mission? What new information was provided? Do participants intend to use the new information? Do participants recommend program to others? What are recommendations for program improvement? What opportunities for collegial discussions exist?	Rating scale on a survey	Participants
Learning	Have participants acquired new skill or knowledge? Do they know how to apply what they have learned? What is the confidence level in their ability to apply what they have learned?	Test Simulation Peer assessment Self-assessment	Results from assessments Surveys
Experiential Learning and Internships	How effective are participants at applying what they have learned? How frequently are participants applying what they have learned? If they are applying what they have learned, what is supporting them? If not, why not and what are the barriers?	Supervisor observations Self-reporting	Questionnaires Action plans
Traditional and Contemporary American Indian Cultural Values	How long does the program contribute to lifelong learning? How does the program promote the participant to give back to the community? How does the program promote the participants to take calculated risks? How does the program contribute to the participants' spiritual growth? How does the program contribute to the participant's understanding of what it means to be American Indian? How does the program promote a sense of volunteerism?	Volunteer hour logs Online discussions Reflection paper Oral debate Editorials	Participant or volunteer organization Student rubric

Themes, Key Questions, Collections and Sources for Data Collection for the TCU-ROI Model (Adapted from Phillips, 2005)

Category	Key Questions	Data Collection	Data Sources
Traditional and Contemporary American Indian Cultural Values	How does the program promote a value of humility? How does the program promote respect for connectedness to the land? How does the program contribute to the development of an attitude of respect for diversity? How does the program contribute to the understanding of Tribal Sovereignty? How does the program help participants build collegial relationships? How does the program engage participants in leadership activities? How does the program promote the development of traditional tribal and contemporary leadership attributes? How does the program support the concept of participant wellness?		
Impact on Indian County	To what extent did the program contribute to the individual's success? To what extent did the program contribute to the organization's success? To what extent did the program contribute to the community's success? To what extent did the application improve the measures the program was intending to improve? How did the program affect output (i.e. quality, time, cost, customer satisfaction, employee satisfaction) and other measures? How do you know it was the program that improved these measures? How does the program enhance the quality of life for participants?	Employer Survey Action Plan Employer Observations	Employer Action Plan or Participant Expert Estimations
ROI	Do the monetary benefits of the program outweigh the costs of the programs?	Questionnaire Action Plan Performance Record	Organization Records Participants Program Staff
Intangibles	Benefits that the institution has chosen not to attach a dollar value.	Questionnaire Action Plan Performance Record	Organization Records Participants Program Staff

Topic/Questions: Tell us about your experience going to school at _____. (Perception and Learnings)

Key Points	**Notes**
Summary	

Topic/Questions: How have you applied what you learned during your college experience? (Application)

Key Point	Notes
Summary	

Topic/Questions: What have you accomplished since graduating? (Application and Impact)

Key Points	Notes
Summary	

Topic/Questions: What impact has the application of knowledge, skill, and information gained by attending tribal college had on your, your organization, and your community? (Impact)

Key Points	Notes
Summary	

Topic/Questions: How does going to Tribal College reflect and influence American Indian values and culture? Indian country at large?

Key Points	**Notes**
Summary	

Appendix C. CCCC Evaluation Instruments

CANKDESKA CIKANA COMMUNITY COLLEGE

Spirit Lake Dakota Nation

Student Course Evaluation

Course/Instructor

Question Title

1. Course Name

- ENG100: Student Success

Question Title

2. My level of participation during class time is:

Never	Very Rarely	Occasionally	Frequently	Very Frequently
Never	Very Rarely	Occasionally	Frequently	Very Frequently

Question Title

3. I have no trouble understanding the concepts and materials that are presented in class:

Strongly disagree	Disgree	Undecided	Agree	Strongly agree
Strongly disagree	Disgree	Undecided	Agree	Strongly agree

Question Title

4. I spend _____ amount of time per week, preparing for class. This includes studing for tests, quizes, worksheets, projects, reading, and/or writing.

- 8 or more hours

- 5 - 6 hours
- 3 - 4 hours
- 1 - 2 hours
- 0 hours

Question Title

5. I am receiving timely and adequate feedback on my assignments:

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Question Title

6. I believe this course is organized and presented in a logical way:

Strongly DIsagree	Disagree	Undecided	Agree	Strongly Agree
Strongly DIsagree	Disagree	Undecided	Agree	Strongly Agree

Question Title

7. The expectations of this class are clearly outlined in the syllabus:

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Question Title

8. The instructor treats students fairly and impartially:

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree

Question Title

9. I believe the strongest feature of my instructor's teaching is: (What is she/he doing that is contributing the most to your learning?)

Question Title

10. I expect my final grade in this course to be a:

- A
- B
- C
- D
- F
- NA

Question Title

11. Do you use the library?

- Valerie Merrick Memorial Library
- North Dakota State Library
- Devils Lake Public Library
- Some other library source
- No, I don't use the library

Question Title

12. Please provide any additional comments or suggestions:

Done