UNITED TRIBES TECHNICAL COLLEGE

Tribal Colleges and Their Impact on Indian Country

United Tribes Technical College (UTTC)

A Case Study

Prepared by
ROI Institute, Inc.
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ROI INSTITUTE®

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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 their 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 United Tribes Technical College (UTTC).

About United Tribes Technical College

The mission of UTTC is to provide quality post-secondary education and training to enhance knowledge, diversity, and leadership for all indigenous nations. UTTC is a TCU located in Bismarck, North Dakota. It was founded in 1968 by the United Tribes of North Dakota Development Corporation. UTTC has been an accredited college since 1982 and is operated by the Three Affiliated Tribes of Fort Berthold, the Spirit Lake Tribe, the Sisseton-Wahpeton Oyate, the Standing Rock Sioux Tribe, and the Turtle Mountain Band of Chippewa Indians. Currently, UTTC offers the following types and numbers of degree programs:

- Bachelor of Science (BS) – 4
- Associate of Science (AS) – 8
- Associate of Applied Science (AAS) – 5
- Vocational Certificates – 3
- Diploma – 1

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.

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RESEARCH REPORT
ROI Institute, Inc.

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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
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Bismarck, North Dakota

Executive Summary

American Indian Alaska Native (AIAN) provides students access to higher education and the opportunities it provides. TCUs allow AIAN students to take their first steps toward earning a degree on or in close proximity to 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 a 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.

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. 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 United Tribes Technical College. Key findings include:

- Approximately 315 students were enrolled during Fall 2017.
- There were 255 students registered in 2017 classified as AIAN.
- Students indicated that they were very satisfied with their courses during that period, scoring them a 4.4 out of 5.0 on overall satisfaction.
- 74% of students passed courses with an A, B, or C; 13% received failing grades. Graduates reporting that while faculty and administrators make it difficult for them to fail by supporting them when life gets in the way, they don't make it easy for them to pass. Expectations for performance exist; and they exist in a safe environment.
- Students learned about traditional and contemporary American Indian Cultural Values, particularly what it means to be an American Indian, the importance of building relationships, and humility. They are building their confidence to do more and to lead others.
- Students learned job skills. Graduates and students reported applying what they learned during school on their jobs after graduation. But they mostly spoke of how what they have learned has changed their personal lives. Knowing culture and living values increases confidence; it also inspires others. Students and graduates are proud to serve as role models and give back to the community that has so given to them.
- 91 students graduated from Summer 2017 to Summer of 2018.

- 56 (62%) of the graduates attained jobs upon graduation.
- The average annual income for 2017-2018 graduates was $26,564.00. This is $11,484.00 more than that of AIAN high school graduates.
- When allocating the annual UTTC operating cost over the number of students attending during the evaluation period, $2,056,300.06 in costs can be attributed to the 91 graduates from 2017.
- The payback period for the investment in UTTC is 3.2 years assuming first year wage income of 56 out of 91 (62%) graduates who attain and retain jobs one year after graduation and one-year operating cost.
- Benefits from the TCU span beyond income. 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 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 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 $225,651 to UTTC (American Indian College Fund, 2018a) to help achieve this goal.

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 has an effect on 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.

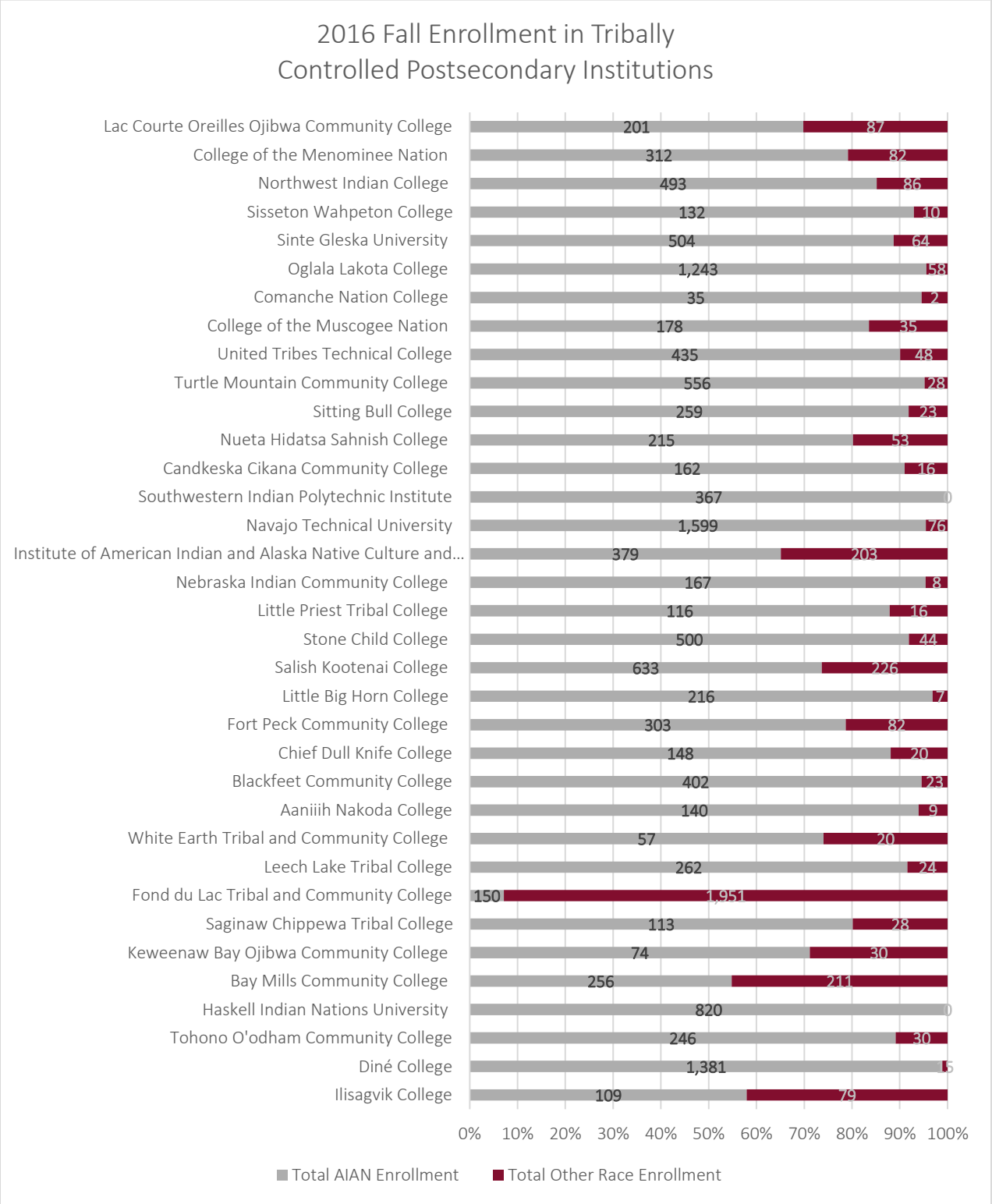

Figure 1. 2016 Fall Enrollment in Tribally Controlled Postsecondary Institutions (U.S. Department of Education, 2017)

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
    - UTTC Staff and Administrators
    - UTTC Faculty
    - UTTC Students
- External
    - Three Affiliated Tribes of Fort Berthold, Spirit Lake Tribe, Sisseton-Wahpeton Oyate, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians
    - 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. Notable 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.

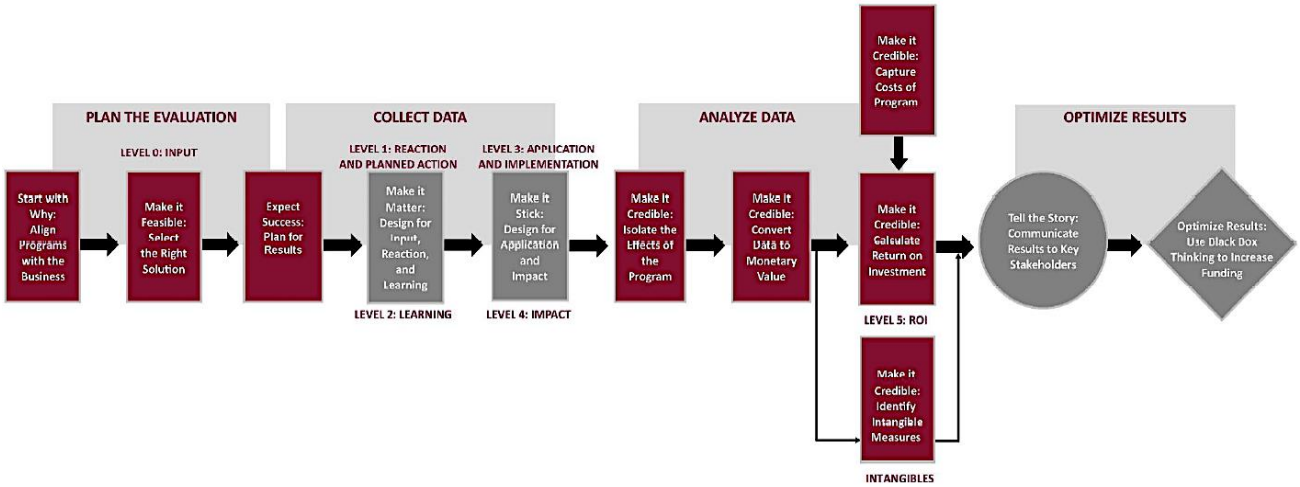

Figure 3. ROI Methodology Process Model

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.

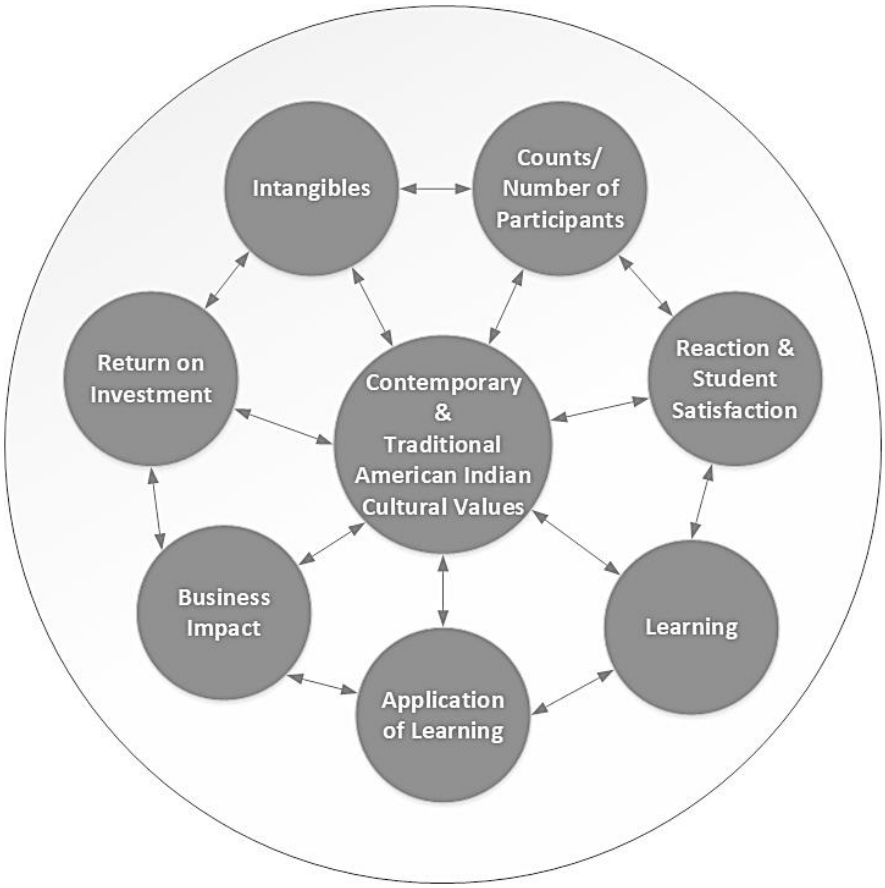

Figure 4. TCU-ROI Conceptual Model, adapted from Janecek-Hartman, 2007.

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 as a whole 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 includes 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.

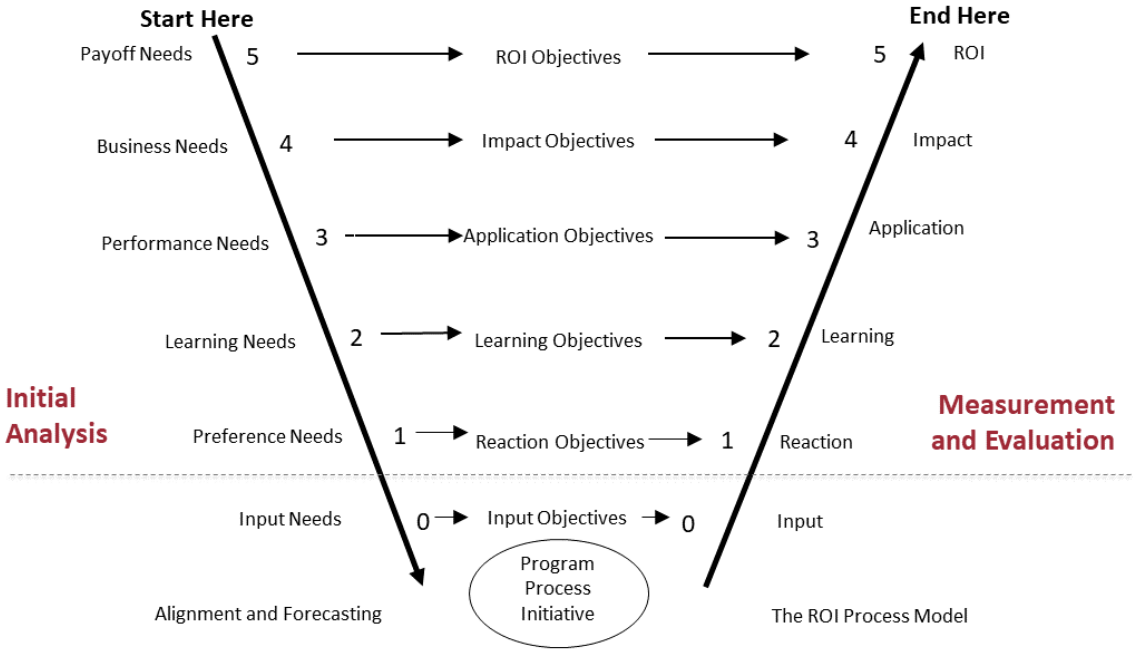

Figure 5. ROI Methodology Alignment Model @Copyright 1994-2019 ROI Institute, Inc.

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
    - Self-reported satisfaction (4.0/5.0)
    - Instructor Ratings (4.0/5.0)
    - 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 UTTC 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. UTTC records were the primary method of data collection for student count, demographics, and types of degrees (Level 0).

Records included UTTC students from 2017 - 2018. Demographic data regarding enrollments at UTTC 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. A copy of the end-of course survey is found in Appendix B. Additional reaction data describing overall perception of attending UTTC 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 C.

Learning data (Level 2) were collected through UTTC records of student performance in classes from Fall 2017 and Spring 2017. 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 UTTC. Data reflective of Impact on Indian Country (Level 4) were collected from UTTC records, Bureau of Labor Statistics, National Center of Education 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 how the data collected using the different approaches were integrated.

Table 6. Data Integration

	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
UTTC 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

- UTTC School Administrator
  - UTTC 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 UTTC

The target audience for the evaluation included graduates of UTTC from Summer 2017, Fall 2017, and Spring 2018. There were two graduates in Summer 2017, 27 and one in two cohorts from Fall 2017, and 60 and one in two cohorts from Spring 2018, for a total of 91 graduates.

On April 4, 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 UTTC. Six people attended the 90-minute session. The six women included graduates and current students. Those with degrees completed their degrees in 2017 and 2018. They all agreed that they like smaller the smaller campuses that TCUs, particularly

UTTC, offer. They talked about how they have gained friends and family members. One talked about how she was previously in school in Billings, Montana. There she felt like a number and had no personal connections. She transferred to UTTC, and she established those personal connections and was no longer just a number.

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 UTTC administrator. The data provided for the evaluation tracked graduates of UTTC from Summer 2017, Fall 2017, and Spring 2018. 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 to 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	• UTTC Records • IPEDS	• UTTC School Administrator	• Onset of evaluation	• UTTC School Administrator
1	**Student Reaction and Satisfaction**	• Self-reported satisfaction measures (4.0/5.0) • Instructor rating (4.0/5.0) • Overall perception	• Course evaluation • Graduate survey • Talking circle	• Students when in class • Graduates with jobs	• During courses • Onset of evaluation	• UTTC 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 17 • Spring grades by division 17 • Talking circles	• UTTC School Administrator • Graduates with jobs	• During courses • During evaluation period	• UTTC 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	• UTTC School Administrator • ROI Institute

4	**Impact on Indian Nation**	• Jobs attained by graduates • Income differential (no college versus college graduate) • Student funding and support • Overall perception of impact due to TCU	• UTTC Records • IPEDS • Previous research • US Bureau of Labor Statistics • National Center for Education Statistics • Talking circles	• UTTC School Administrator • State of ND representative • Graduates with jobs	• During evaluation period	• UTTC 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 UTTC. 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. A variety of 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. Trendline 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 UTTC leadership and that of 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 UTTC graduates from Summer 2017, Fall 2017, and Spring 2018. Earnings varied from quarter to quarter for graduates of UTTC. Therefore, all of 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 NHSC for one year. While the benefits are from the student perspective (jobs and income), the denominator reflects cost 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 expenses to the general fund for fiscal year 2017 were considered when developing project costs. The final total was prorated according to the total enrollment of UTTC from the Fall 2017 semester (315) because this budget was ultimately used to assure students make progress towards degree completion. The resulting figure was then assigned to the number of graduates from the Summer and Fall 2017 and Spring 2018 semesters to determine the final program costs associated with graduating the 91 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
- UTTC Administrators

Additional stakeholders will receive the results as deemed appropriate by UTTC 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 • UTTC 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	Database: BLS data				
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 sufficient 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 UTTC 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 of the costs from the entire of UTTC 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.

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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

This first level of data describes the student enrollment, graduation, and types of degrees. The first datapoint is enrollments of AIANs at UTTC. The reason this datapoint is important is described by Janecek-Hartman (2007), who stated that funding for UTTC and Tribal Colleges in general is heavily based on the number of full-time equivalent and unduplicated enrollments. Figure 6 displays AIAN enrollments for UTTC from 2010-2017.

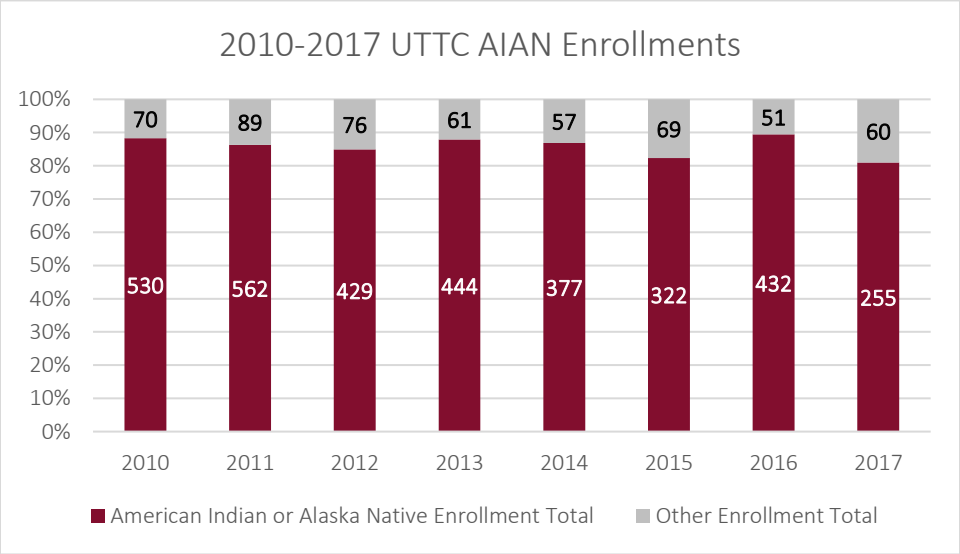


Figure 6. 2010-2017 UTTC AIAN Enrollments (U.S. Department of Education, 2019)

The majority of enrollments at UTTC are AIANs. Enrollments of AIANs at UTTC ranged from as 81% to 89%. The average percentage of AIAN enrollments at UTTC is 86%.

During Summer 2017, Fall 2017, and Spring 2018, 94 students graduated from UTTC academic programs. Figure 7 presents the distribution of these graduates according to the semester in which they completed their degrees.

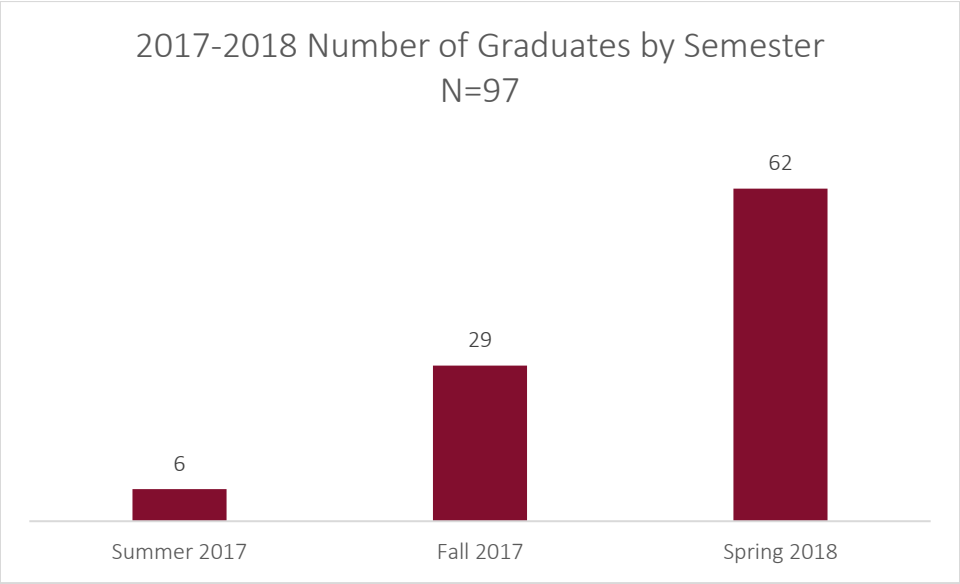


Figure 7. 2017-2018 Number of Graduates by Semester

The majority of graduates from UTTC finished their degrees in the spring semester.

Figure 8 provides an overview of the types of degrees earned by UTTC during the evaluation period. The most popular degrees were Heavy Equipment, Criminal Justice, and Business Administration. These programs accounted for 38.14% of the total degrees awarded by UTTC.

Further clarity regarding the total number of graduates from UTTC is provided by considering how many students earned multiple degrees. During this time period, only three people earned more than one degree. Each of these three people earned two degrees at UTTC. The three students who completed multiple degrees are still counted in Figure 7 because they completed their degrees in different semesters.

Figure 8 illustrates the number of degrees awarded in each major at UTTC.

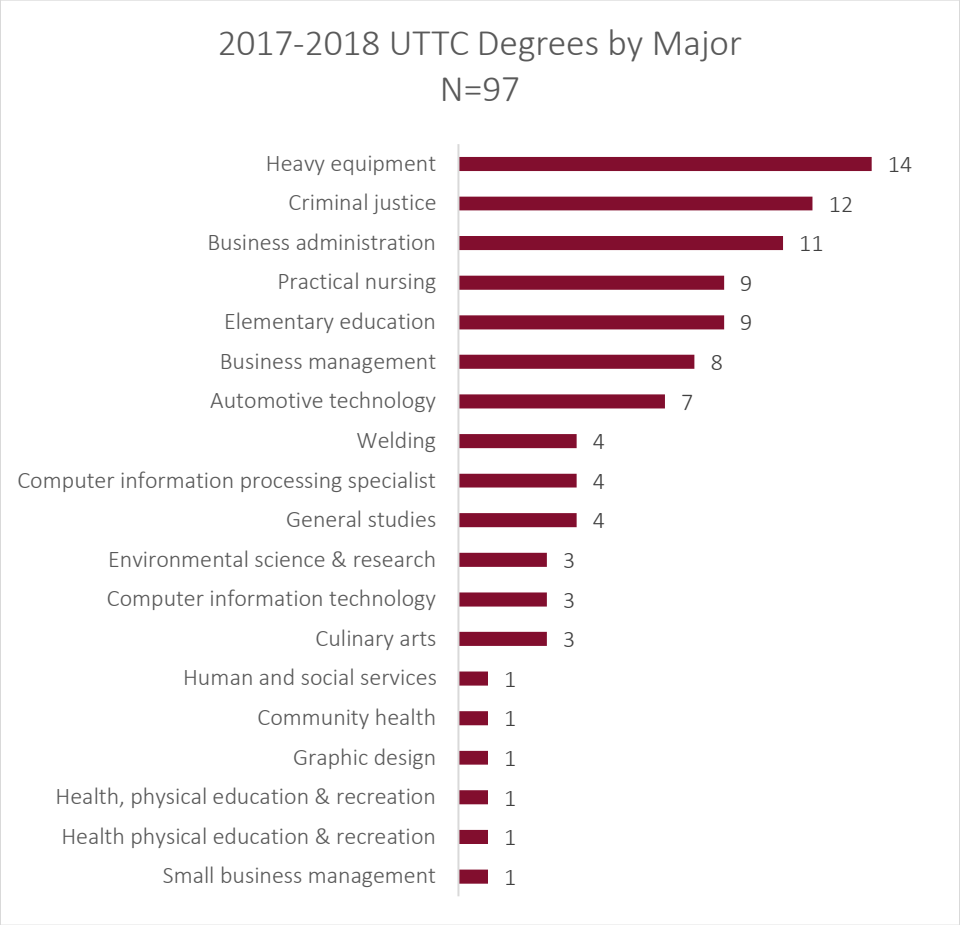


Figure 8. 2017-2018 UTTC Degrees By Major

Student Reaction and Satisfaction

Level 1 results measure student reaction 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, course, or institution, there is little chance that they will be receptive to learning or applying the knowledge and skills which have a positive impact on the business. This evaluation assessed reaction and satisfaction from students who took classes at UTTC during Fall 2017 and Spring 2018.

A total of 1,253 students out of 1,751 students completed evaluations during Fall 2017and 1,065 students out of 1,761 students completed them during Spring 2018. The response rate for course evaluations for Fall 2017 was 72%; the response rate was 60% for Spring 2018. Results are presented in aggregate for all of UTTC and according to academic program. The aggregate data includes sections that focus on course features and demographics, self-reported satisfaction measures, and instructor satisfaction measures. Academic program results for Level 1 focus specifically on various aspects of student satisfaction with instructional aspects of courses.

Student Demographics

Figure 9 displays the academic level of students taking classes at UTTC during the Fall 2017 semester according to gender.

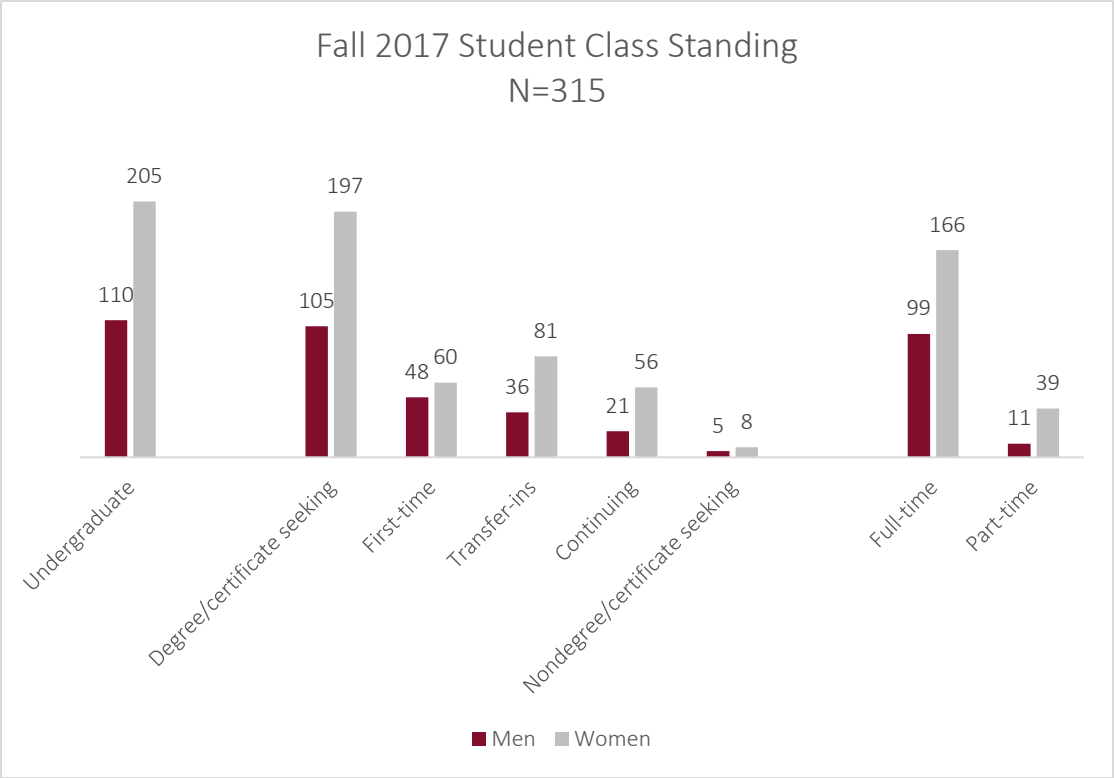


Figure 9. Fall 2017 Student Class Standing

First-time, Transfer-ins, and Continuing are subcategories of Degree/certificate seeking.

During the period evaluated, there were almost twice as many female students at UTTC as males. This trend held for all categories of class standing. The large number of females suggests that UTTC practices inclusivity and provides Native women with the opportunity to increase their knowledge and further their education. It may also speak to a general trend in which females are using education to facilitate upward social mobility.

All of the students are undergraduates which is related to the fact the UTTC's highest degree program is at the bachelor's level. Fall 2017 saw large numbers of both first-time students and transfer students which speaks to the overall popularity of UTTC. Finally, the vast majority of UTTC students attend school on a full-time basis.

Self-Reported Satisfaction Measures

Table 9 provides a summary of student self-reported satisfaction measures for various aspects of courses at UTTC. The data presented in this table are the overall averages of specific data provided in the Class Satisfaction section.

Table 9. Fall 2017 and Spring 2018 Student Course Satisfaction

	Fall 2017	Spring 2018
Active Participation	4.3	4.3
Sufficient Time Invested	4.3	4.3
Course Allowed Participation	4.5	4.5
Appreciation for Diversity	4.2	N/A
Technology Required	4.3	4.3
Course Organization	4.4	4.3
Appropriate Grade	4.5	4.4
Clear Course Objectives	4.5	4.4
Relevant Readings and Assignments	4.5	4.5
Knowledge of AIAN Culture Included	3.9	N/A

Interestingly, the courses from Fall 2017 and Spring 2018 have very similar numbers in each of the student satisfaction measures. Almost all items either stayed the same or deviated by 0.1 points from Fall 2017 to Spring 2018. This high degree of consistency is a positive attribute for the courses being taught at UTTC.

The largest difference between the two overall averages is the absence of Appreciation for Diversity and Knowledge of AIAN Culture in the evaluations for Spring 2018. It is not known why these two items were dropped from the evaluation. It would appear that these two categories would be important for UTTC to track on a regular basis because of the strong focus UTTC has on maintaining and teaching students about Native culture. Future evaluations should include these two items so that UTTC can assure it is meeting its mission of helping students learn about their culture and other peoples. Students are mostly satisfied with the items assessed in this section with the exception of Knowledge of AIAN Culture. This item failed to reach the 4 out of 5 evaluation standard for a 5-point scale. Further efforts are needed to ensure aspects of AIAN culture are included in UTTC courses.

Instructor Satisfaction Measures

Table 10 provides a summary of satisfaction measures related specifically to UTTC instructors. The data presented in this table are the overall averages of specific data provided in the Class Satisfaction section.

Table 10. Fall 2017 and Spring 2018 Instructor Satisfaction Measures

	Fall 2017	Spring 2018
Prompt grading of Assignments	4.5	4.4
Implementation of Changes from Midterm Assessment	4.2	4.2
Discussion Questions Facilitate Critical Thinking	4.6	4.5
Respectful Treatment of Students	4.6	4.5
Availability to Help Students	4.6	4.5
Knowledgeable of Subject	4.6	4.5

Similar to the data for self-reported satisfaction measures, the instructor data was very consistent. This data only ranged 0.4 points between 4.2 and 4.6. Most of the items decreased slightly from Fall 2017 to Spring 2018 but all met the 4 out of 5 evaluative standard. This is not a cause for alarm as the changes are minimal. Larger sets of data and more historical trends would be needed to establish the need for action on the part of UTTC. Overall, students are very satisfied with the quality of UTTC instructors based on the maximum 5-point scale.

Class Satisfaction

The results of the satisfaction measures collected for courses delivered in Fall 2017 and Spring 2018 are presented in the following tables. Tables 11, 12, 13, and 14 display the average scores for each class satisfaction measure focused on self-reported satisfaction. Tables 11 and 13 display data for courses offered in both semesters while Tables 12 and 14 present data for courses only offered in one of the two semesters evaluated. Several tables were used for each of the self-reported satisfaction measures because there were so many of them.

Tables 15 and 16 display measures associated with the course instructor. Table 15 displays data for courses offered in both semesters and Table 16 presents data for courses only offered in one semester. Data presented in both tables represent a combination of all classes taught in a given department for the semester indicated. Therefore, the specific classes taught between the two semesters can vary.

Table 11. Fall 2017 and Spring 2018 Course Satisfaction for Self-Reported Measures (Both Semesters)

	Active Participation		Sufficient Time Invested		Course Allowed Participation		Appreciation for Diversity		Technology Required		Course Organization	
	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18
ACT	4.7	4.5	4.7	4.3	4.7	4.5	4.3	N/A	4.7	4.8	4.7	4.0
ALH	3.7	3.4	4.2	4.0	3.5	3.9	3.3	N/A	4.7	4.6	4.2	4.5
ART	4.7	4.7	4.9	4.3	4.7	4.3	4.9	N/A	4.8	5.0	4.6	4.0
ASC	4.2	4.1	4.1	4.1	3.9	4.4	3.7	N/A	4.0	4.4	3.8	4.4
AUT	4.6	4.5	4.4	4.4	4.9	4.5	4.5	N/A	4.5	4.4	4.8	4.4

	Active Participation		Sufficient Time Invested		Course Allowed Participation		Appreciation for Diversity		Technology Required		Course Organization	
BAD	4.4	3.7	4.4	3.6	4.5	3.9	4.3	N/A	4.6	3.9	4.4	3.8
BIO	4.2	4.4	4.3	4.5	4.3	4.7	3.7	N/A	3.5	4.5	4.2	4.7
BUS	4.3	4.1	4.0	4.1	4.4	4.6	4.4	N/A	4.2	4.5	4.5	4.5
CHN	4.5	4.5	4.0	4.5	4.5	4.5	4.5	N/A	4.5	4.5	4.5	4.5
CIS	4.3	3.9	4.4	4.0	4.4	4.7	3.9	N/A	4.7	4.7	4.4	4.0
CJU	4.5	4.6	4.5	4.8	4.6	4.5	4.4	N/A	4.3	4.2	4.5	4.6
ECO	4.4	4.4	4.6	4.2	4.4	4.0	4.8	N/A	4.8	4.4	4.4	4.7
EDU	4.4	4.6	4.4	4.8	4.7	4.7	4.6	N/A	4.6	4.6	4.5	4.6
ENR	4.5	3.9	3.5	3.4	4.5	4.7	4.5	N/A	4.5	4.5	4.5	4.5
ESR	4.3	4.5	4.5	4.2	4.3	4.8	4.1	N/A	4.4	4.8	4.3	4.5
HEO	4.4	4.2	4.4	4.2	4.4	4.4	4.4	N/A	4.4	4.4	4.4	4.4
HIS	3.4	4.6	3.8	4.6	4.2	4.5	4.2	N/A	3.2	4.4	4.2	4.5
HPR	4.7	4.3	4.7	4.3	4.7	4.3	4.9	N/A	4.5	4.3	4.7	4.3
HSS	4.1	4.5	3.8	4.1	4.3	4.6	4.3	N/A	4.0	4.5	4.1	4.4
MTH	4.2	4.3	4.0	4.2	4.3	4.5	3.9	N/A	4.1	4.3	4.3	4.5
NUR	4.3	4.4	4.4	4.3	4.5	4.4	4.3	N/A	4.4	4.2	4.3	4.2
NUT	4.2	4.2	4.3	3.8	4.6	4.4	4.3	N/A	4.5	4.2	4.5	4.0
SOC	4.1	4.2	4.1	4.3	4.4	4.2	4.3	N/A	3.7	3.9	4.3	4.0
TES	4.3	5.0	4.4	4.5	4.6	5.0	4.1	N/A	4.3	4.8	4.6	5.0
WLD	4.2	4.5	4.1	4.7	4.5	4.7	4.1	N/A	3.8	3.8	4.3	4.3

Success was measured by achieving an average of 4 on a 4 out of 5 Likert scale for each of the class satisfaction measures listed in the table columns. Most UTTC classes taught during Fall 2017 and Spring 2018 achieved at least a 4 out of 5 in the areas evaluated. For example, ACT classes achieved at least an average of 4 out of 5 for all of the measures. ART and EDU classes had the most satisfaction ratings above 4.5 with eight each. These high scores indicate exemplary performance in terms of student satisfaction. On the other hand, courses having the most difficulty in this portion of the satisfaction measures evaluation were ALH and BAD with five items each that fail to meet the minimum standard of 4 out of 5.

The areas in which the courses that were taught both semesters excelled most were Courses Allowed Participation with eight ratings in Fall 2017 and nine in Spring 2018 that were above 4.5. The high satisfaction with participation opportunities in courses is encouraging as experiential learning is often correlated with higher levels of student success. Also, Technology Required reported seven in Fall 2017 and Spring 2018; this is significant as technology skills are critical to success in the workforce.

Courses that did not do well include Appreciation for Diversity in Fall 2017 with five scores below 4. Both Active Participation and Technology Required had four scores below 4. The high number of low scores in the Appreciation for Diversity area is concerning as UTTC courses are falling short in an area that should complement its focus on Native culture. The low scores are also concerning because this item was not evaluated in Spring 2018. The low ratings in Active

Participation and Technology Required help mediate the initial findings about Courses Allowed Participation and Technology Required. First, the fact that courses offer many opportunities for participation does not mean that students are taking advantage of the opportunities. This seems to be the case with Active Participation with four ratings below 4. Next, the Technology Required area should be expected to have mixed results. Some courses are easier to incorporate technology into while others are quite difficult. UTTC should explore additional avenues to incorporate technology into its courses but great urgency is not warranted in this case.

Table 12 displays average scores for class satisfaction measures of classes that were only taught either in Fall 2017 or Spring 2018.

Table 12. Fall 2017 and Spring 2018 Course Satisfaction for Self-Reported Measures (One Semester)

	Active Participation		Sufficient Time Invested		Course Allowed Participation		Appreciation for Diversity		Technology Required		Course Organization	
	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18
BOT	4.3	-	4.3	-	4.3	-	3.8	-	4.5	-	4.4	-
GEN ED	4.4	-	4.4	-	4.5	-	4.3	-	4.3	-	4.5	-
GIS	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-
SOI	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-
CHM	-	4.3	-	4.7	-	4.4	-	N/A	-	4.7	-	4.4
CIT	-	4.1	-	4.1	-	4.0	-	N/A	-	4.4	-	3.8
COM	-	4.3	-	4.3	-	4.5	-	N/A	-	4.5	-	4.1
CSC	-	3.8	-	3.8	-	3.8	-	N/A	-	4.2	-	4.0
ENG	-	4.3	-	4.2	-	4.4	-	N/A	-	4.4	-	4.2
FND	-	4.5	-	4.5	-	4.5	-	N/A	-	4.3	-	4.2
GEO	-	4.7	-	4.7	-	4.7	-	N/A	-	3.7	-	4.7
GPE	-	4.5	-	4.5	-	4.8	-	N/A	-	4.6	-	4.6
HUM	-	4.3	-	4.2	-	4.4	-	N/A	-	4.1	-	4.3
LAB	-	4.5	-	4.5	-	4.5	-	N/A	-	4.6	-	4.6
NAS	-	4.7	-	4.6	-	4.7	-	N/A	-	4.3	-	4.5
PHY	-	4.4	-	3.9	-	4.5	-	N/A	-	4.1	-	4.2
POL	-	4.3	-	4.4	-	4.3	-	N/A	-	4.2	-	4.4
PSY	-	4.4	-	4.4	-	4.5	-	N/A	-	4.0	-	4.4

In terms of satisfaction ratings, both GIS and SOI achieved perfect evaluations, scoring 5 in each category. These courses also had low enrollments (two for GIS and one for SOI), but this fact should not diminish their stellar satisfaction performance. Although GPE and LAB did not have perfect scores, all of their measures came in at 4.5 or above, affirming their quality in the eyes of UTTC students. CSC struggled with student satisfaction having a total of three items below 4.

As far as the areas of the evaluation are concerned, performance was quite high for a number of areas including Sufficient Time Invested, Course Allowed Participation, Technology Required,

and Course Organization which had five scores above 4.5 across two semesters. Interestingly, Sufficient Time Invested had two ratings below 4 suggesting that, although students have issues dedicating time to their studies in some courses, they are focused on their studies overall.

Table 13 continues where Table 11 left off by presenting the rest of the self-reported satisfaction measures not listed previously.

EDU was the course that performed that best on these metrics with a total of six items above 4.5. EDU classes were also at the top in terms of satisfaction in Table 11, reflecting to very strong overall performance. ESR kept pace with EDU turning in five items above 4.5. AUT, CJU, and TES had four items each above 4.5.

BAD continued its struggles as documented in Table 11, having the highest number of ratings below four on measures listed on Table 12. BAD was the department with the lowest satisfaction ratings across all of the courses. All other courses listed on Table 13 had only one rating below 4. For the most part, these ratings all centered around the item, Knowledge of AIAN Culture Included.

The lowest rated item among UTTC courses was Knowledge of AIAN Culture Included which indicates that Native Culture is not being integrated into courses to the satisfaction of UTTC students. This is a very concerning trend given UTTC's status as a Tribal College. Coupled with the low ratings from the Appreciation for Diversity item, UTTC has a problem it needs to address in terms of integrating Native Culture and External Perspectives into its classes. A first step in addressing this problem is evaluating the Knowledge of AIAN Culture Included item in all semesters.

Table 13. Fall 2017 and Spring 2018 Course Satisfaction for Self-Reported Measures (Both Semesters) Continued

	Appropriate Grade		Clear Course Objectives		Relevant Readings and Assignments		Knowledge of AIAN Culture Included	
	F17	S18	F17	S18	F17	S18	F17	S18
ACT	4.7	4.3	4.7	4.3	4.7	4.5	3.6	N/A
ALH	4.2	4.0	4.2	4.5	4.2	4.8	2.8	N/A
ART	4.7	4.3	4.8	4.3	4.9	4.0	4.8	N/A
ASC	4.1	4.3	4.1	4.4	4.0	4.5	3.5	N/A
AUT	4.7	4.6	4.7	4.4	4.9	4.5	3.7	N/A
BAD	4.6	3.7	4.4	3.8	4.5	3.8	3.8	N/A
BIO	4.1	4.5	4.3	4.7	4.0	4.8	3.1	N/A
BUS	4.5	4.4	4.3	4.5	4.7	4.5	4.0	N/A
CHN	4.5	4.5	4.0	4.5	4.5	4.5	4.0	N/A
CIS	4.6	4.1	4.6	4.4	4.6	4.3	3.5	N/A
CJU	4.5	4.8	4.7	4.7	4.6	4.5	3.8	N/A
ECO	4.4	4.2	4.8	4.2	4.8	4.5	3.2	N/A

	Appropriate Grade		Clear Course Objectives		Relevant Readings and Assignments		Knowledge of AIAN Culture Included	
EDU	4.6	4.6	4.8	4.8	4.7	4.7	4.2	N/A
ENR	4.5	3.9	4.5	4.7	4.5	4.7	4.5	N/A
ESR	4.7	4.7	4.6	4.9	4.4	4.8	3.4	N/A
HEO	4.4	4.2	4.4	4.3	4.4	4.4	4.4	N/A
HIS	4.0	4.6	4.2	4.6	4.2	4.6	4.2	N/A
HPR	4.7	4.3	4.7	4.5	4.7	4.5	4.7	N/A
HSS	4.1	4.5	4.2	4.7	4.2	4.7	3.8	N/A
MTH	4.3	4.4	4.5	4.6	4.4	4.6	4.1	N/A
NUR	4.3	4.3	4.5	4.4	4.5	4.5	3.7	N/A
NUT	4.3	4.2	4.4	4.1	4.5	4.1	4.1	N/A
SOC	4.5	4.3	4.3	4.2	4.2	4.3	4.5	N/A
TES	4.4	4.5	4.6	5.0	4.6	5.0	3.3	N/A
WLD	4.3	4.6	4.4	4.6	4.5	4.7	3.7	N/A

Table 14 displays average scores for class satisfaction measures of classes that were only taught either in Fall 2017 or Spring 2018.

Table 14. Fall 2017 and Spring 2018 Course Satisfaction for Self-Reported Measures (One Semester) Continued

	Appropriate Grade		Clear Course Objectives		Relevant Readings and Assignments		Knowledge of AIAN Culture Included	
	F17	S18	F17	S18	F17	S18	F17	S18
BOT	4.5	-	4.4	-	4.3	-	3.6	-
GEN ED	4.5	-	4.5	-	4.6	-	4.0	-
GIS	5.0	-	5.0	-	5.0	-	5.0	-
SOI	5.0	-	5.0	-	5.0	-	5.0	-
CHM	-	4.0	-	4.6	-	4.9	-	N/A
CIT	-	4.0	-	4.0	-	4.0	-	N/A
COM	-	4.3	-	4.3	-	4.5	-	N/A
CSC	-	4.0	-	4.0	-	4.2	-	N/A
ENG	-	4.2	-	4.4	-	4.4	-	N/A
FND	-	4.6	-	4.6	-	4.4	-	N/A
GEO	-	4.7	-	4.7	-	4.7	-	N/A
GPE	-	4.5	-	4.6	-	4.7	-	N/A
HUM	-	4.3	-	4.4	-	4.5	-	N/A
LAB	-	4.5	-	4.6	-	4.5	-	N/A
NAS	-	4.6	-	4.6	-	4.5	-	N/A
PHY	-	4.3	-	4.4	-	4.4	-	N/A
POL	-	4.5	-	4.5	-	4.5	-	N/A
PSY	-	4.4	-	4.4	-	4.5	-	N/A

The low enrollment GIS and SOI continued their perfect evaluation performance. Overall, the data in Table 14 are very good as the majority of the items listed are higher than 4.5 and only one item scored less than 4. All courses offered in only one semester during the evaluation period performed well on these metrics.

Table 15 lists course satisfaction measures related to UTTC instructors.

Table 15. Fall 2017 and Spring 2018 Course Satisfaction for Instructor Measures (Both Semesters)

	Prompt Grading of Assignments		Implementation of Changes from Midterm Assessment		Discussion Questions Facilitate Critical Thinking		Respectful Treatment of Students		Availability to Help Students		Knowledge of Subject	
	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18
ACT	4.8	4.5	4.5	3.5	4.8	4.5	4.8	4.5	4.7	4.3	5.0	5.0
ALH	4.2	3.8	3.7	3.5	4.0	3.9	4.2	4.1	4.2	4.5	4.4	4.1
ART	4.9	4.7	4.8	4.3	4.7	4.0	4.8	4.7	4.8	4.7	4.8	4.7
ASC	3.9	4.5	3.8	4.6	4.0	4.5	3.9	4.5	4.2	4.6	4.0	4.6
AUT	4.7	4.6	4.5	4.5	4.8	4.6	4.8	4.5	4.7	4.5	4.9	4.6
BAD	4.5	4.0	4.2	3.7	4.5	4.0	4.7	4.0	4.6	4.0	4.7	4.0
BIO	4.1	4.7	4.1	4.4	4.5	4.6	4.4	4.7	4.5	4.7	4.7	4.8
BUS	4.4	4.6	4.2	4.3	4.5	4.6	4.7	4.7	4.6	4.7	4.6	4.7
CHN	4.5	4.5	3.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
CIS	4.4	4.4	4.3	4.3	4.4	4.7	4.5	4.3	4.5	4.7	4.6	4.6
CJU	4.6	4.7	4.0	4.4	4.7	4.6	4.8	4.8	4.6	4.7	4.8	4.7
ECO	4.9	4.3	4.5	3.9	4.9	4.7	4.9	4.6	4.9	4.6	4.9	4.6
EDU	4.8	4.9	4.8	4.7	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9
ENR	4.5	4.7	4.5	4.7	4.5	4.7	4.5	4.9	4.5	4.9	4.5	4.9
ESR	4.6	4.9	4.0	4.1	4.6	4.9	4.8	4.9	4.6	4.9	4.7	4.9
HEO	4.4	4.1	4.4	4.0	4.4	4.2	4.4	4.1	4.4	4.2	4.4	4.2
HIS	4.0	4.7	3.4	4.3	4.2	4.6	4.0	4.5	4.2	4.5	3.8	4.6
HPR	4.9	4.8	4.9	4.8	4.9	4.8	4.9	4.8	4.9	4.8	4.9	4.8
HSS	4.1	4.7	3.9	4.1	4.9	4.8	4.2	4.9	4.2	4.8	4.3	4.9
MTH	4.6	4.7	4.1	4.3	4.6	4.7	4.6	4.7	4.5	4.7	4.6	4.7
NUR	4.4	4.2	4.3	4.2	4.4	4.2	4.4	4.3	4.4	4.2	4.5	4.3
NUT	4.7	4.2	4.3	3.8	4.7	4.2	4.7	4.5	4.7	4.2	4.7	4.2
SOC	4.5	4.3	4.2	3.8	4.3	4.3	4.3	4.2	4.4	4.2	4.3	4.3
TES	4.8	5.0	4.4	5.0	4.9	5.0	4.9	5.0	4.9	5.0	4.9	5.0
WLD	4.4	4.7	3.6	3.9	4.5	4.7	4.4	4.8	4.4	4.7	4.6	4.8

In the evaluation of satisfaction with instructors, EDU continued the trends from the previous tables with all measures above 4.5. HPR also achieved this high level of performance with all 12 measures listed above 4.5. TES fell one item short of this level with 11 items above 4.5. CJU, ART, and ESR classes also performed very well with 10 items each above 4.5. All of these

departments have instructors that drive success among UTTC students. The department that struggled the most with instructor satisfaction was ALH with four items below 4.

Instructor rated items that achieved the highest overall number of ratings above 4.5 were Knowledge of Subject and Availability to Help Students. Knowledge of Subject had the highest number of ratings above 4.5 with a total of 34 across two semesters, followed closely by Availability to Help Students with a total of 27. These ratings reflect favorably on the quality of the UTTC faculty. However, the 13 ratings below 4 in the Implementation of Changes from Midterm Assessment area depict the relative inflexibility of the instructors from the student's perspective. Continual improvement should be a primary focus of teaching, but it is most important to improve courses upon the conclusion of the given semester. As an instructor, it is difficult to manage the bandwidth to make drastic changes in the middle of the semester because of the demands of grading, teaching multiple courses, and attending to individual student needs. Therefore, UTTC instructors should correct only the most critical issues during their courses.

Table 16 provides scores for the evaluation data related to satisfaction with instructors in courses offered in only one of the two semesters that are part of this evaluation.

Table 16. Fall 2017 and Spring 2018 Course Satisfaction for Instructor Measures (One Semester)

	Prompt Grading of Assignments		Implementation of Changes from Midterm Assessment		Discussion Questions Facilitate Critical Thinking		Respectful Treatment of Students		Availability to Help Students		Knowledge of Subject	
	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18	F17	S18
BOT	4.4	-	4.3	-	4.6	-	4.7	-	4.7	-	4.5	-
GEN ED	4.5	-	4.3	-	4.6	-	4.7	-	4.6	-	4.7	-
GIS	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-
SOI	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-	5.0	-
CHM	-	4.6	-	4.3	-	4.4	-	4.9	-	4.9	-	4.9
CIT	-	4.1	-	3.8	-	4.1	-	4.2	-	4.2	-	4.1
COM	-	3.8	-	3.9	-	4.5	-	4.5	-	4.1	-	4.5
CSC	-	4.0	-	3.7	-	3.9	-	3.8	-	4.1	-	4.0
ENG	-	4.4	-	4.2	-	4.4	-	4.6	-	4.4	-	4.6
FND	-	4.6	-	4.4	-	4.6	-	4.8	-	4.8	-	4.7
GEO	-	4.3	-	4.0	-	4.3	-	4.3	-	4.3	-	4.7
GPE	-	4.4	-	4.1	-	4.4	-	4.7	-	4.4	-	4.5
HUM	-	4.2	-	4.0	-	4.5	-	4.5	-	4.3	-	4.5
LAB	-	4.3	-	4.5	-	4.6	-	4.7	-	4.6	-	4.6
NAS	-	4.6	-	4.6	-	4.5	-	4.7	-	4.7	-	4.8
PHY	-	4.8	-	4.4	-	4.7	-	4.7	-	4.7	-	4.5
POL	-	4.5	-	4.1	-	4.6	-	4.5	-	4.3	-	4.6
PSY	-	4.3	-	4.3	-	4.6	-	4.6	-	4.5	-	4.6

Trends for courses delivered in only one semester during the evaluation period continued their trend of high satisfaction ratings shown in in Table 14. GIS an SOI completed their evaluations with perfect scores for each measure and almost every course had the majority of their ratings above 4.5. The only course with any issues was CSC which had three ratings below 4. Implementation of Changes from Midterm Assessment continued to be the thematic area in which students reported the lowest satisfaction levels. Overall, students were happy with instructors teaching classes in departments that offered classes in either Fall 2017 or Spring 2018.

Overall Perception of Attending Tribal College

UTTC is just what the students and graduates said they need. The small classes and friendly faculty and administrators make it easy for them to connect with others. Talking circle participants enrolled in UTTC from different places and for different reasons. Some felt like a number in the larger schools; others were looking for a safe haven – an environment where they could grow while being around people who lived similar lives. By all accounts, a student outcome associated with attending UTTC is a confidence. They have learned to push forward. When asked if they had recommended UTTC to others in similar situations as theirs, the responses was a resounding yes. They want to help other Native Americans get their degrees in an environment such as that UTTC offers.

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 will have the opportunity to be applied on the job. For this evaluation, learning was evaluated by analyzing the grades earned by UTTC students in the Fall 2017 and Spring 2017 semesters. All of the classes offered during this semester were included in the data analysis. 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 topic discussed in this section outlines the specific courses in which students earned As.

Overall Grades

Figures 10 and 11 present the overall grade distributions across all courses for Spring 2017 and Fall 2017. Grades for Summer 2017 were not provided. The grade distributions presented also include other categories such as *Withdraws* (W), *Incompletes* (I), and *Pass* (P). The *Blank* category also included in each figure represents courses that were either credit or no credit classes.

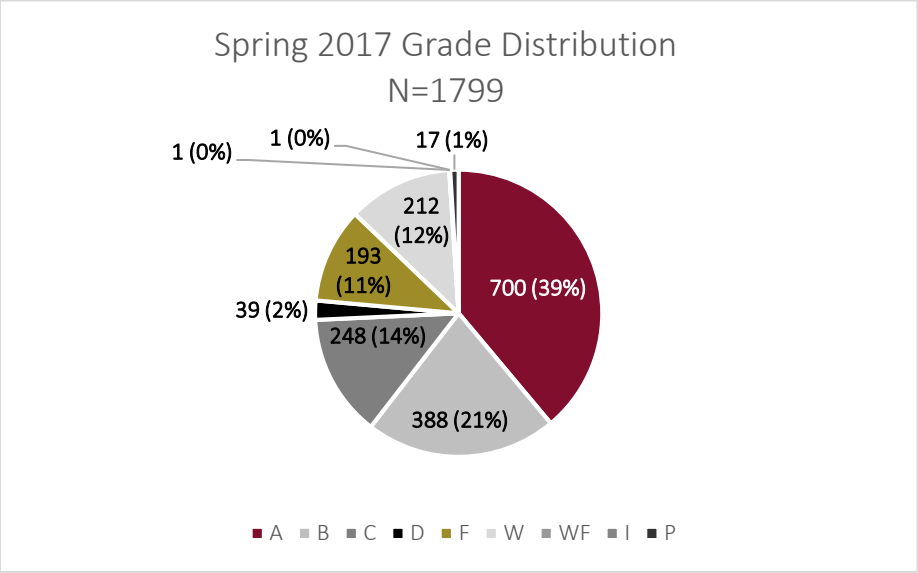


Figure 10. Spring 2017 Grade Distribution

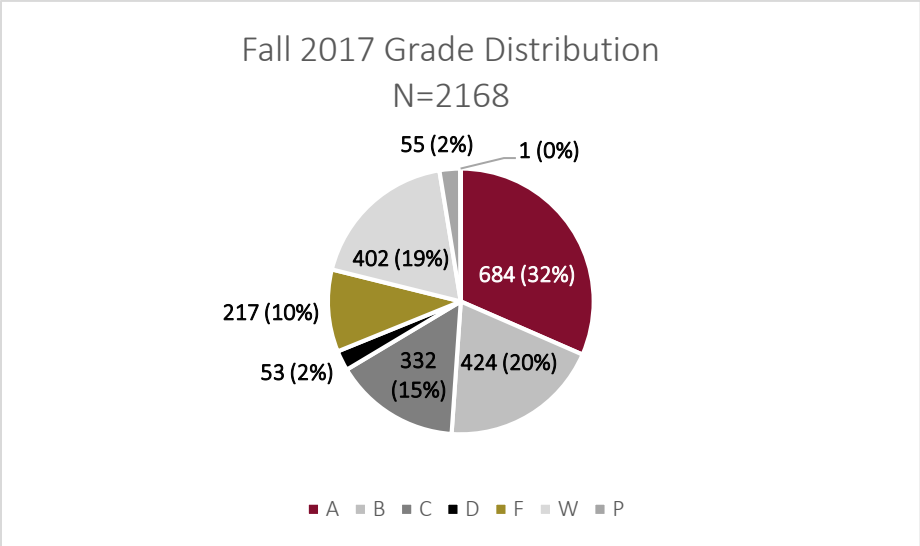


Figure 11. Fall 2017 Grade Distribution

The first thing to notice is that the percentages of As and Bs UTTC students earned each semester are fairly consistent. The range of percentages for As is between 32% and 39%. The range of percentages for Bs is between 20% and 21%. This consistency is important to note especially considering that the number and type of courses offered in each semester vary considerably. The consistent percentage of As and Bs earned in these semesters speaks to a consistency in achievement by UTTC students. In fact, if the percentage of passing grades (A, B, and C) is considered as a whole for each semester, the results would be:

- Spring 2017 – 74.97%
- Fall 2017 – 66.42%

Therefore, a minimum of 66% of UTTC students earned a passing grade in the courses they took during the evaluation period. Students at UTTC are achieving a consistently high proportion of passing grades in the courses that they take.

The total percentages of Fs earned by students at UTTC was between 10% and 11%. Fall 2017 saw the highest number of Fs but a lower overall percentage.

In order to assess the meaning of the percentages of Fs at UTTC, it is necessary to compare overall failing grades against 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 12 presents the number of Fs at all the Tribal Colleges as compared to the rest of the grades.

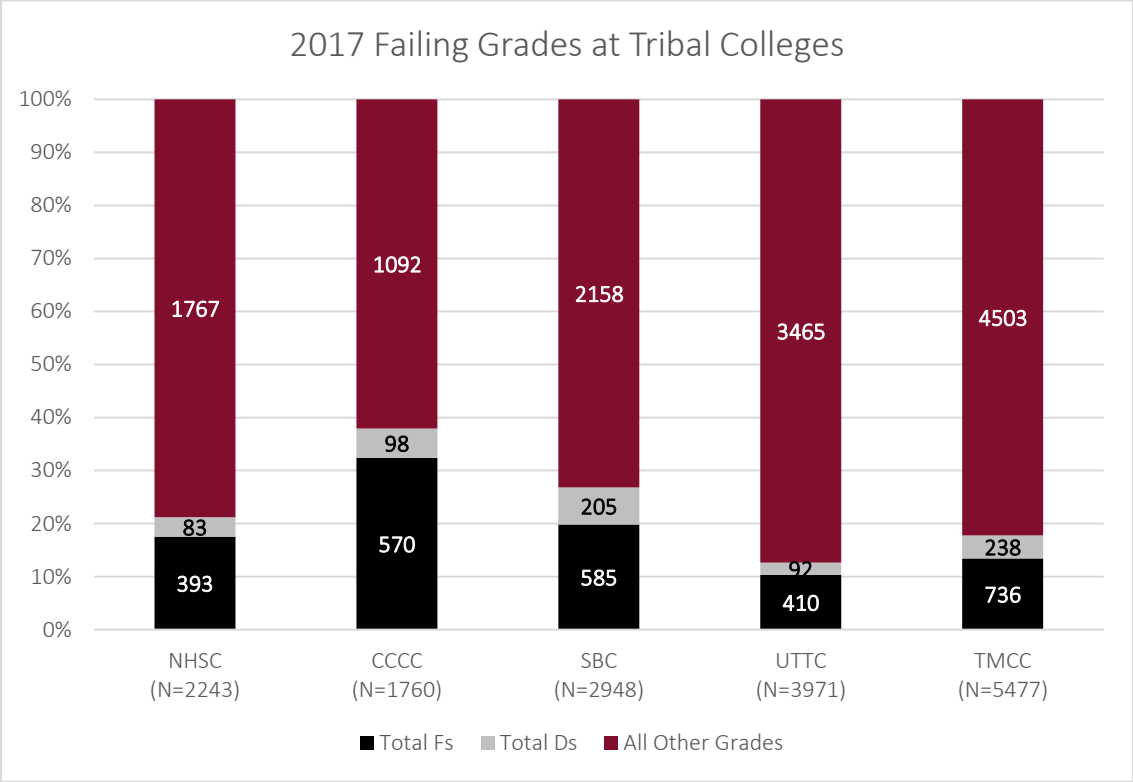


Figure 12. 2017 Failing Grades at Tribal Colleges

The average percentage of failing grades across the North Dakota Tribal Colleges is 23.28%. The percentage of Fs at UTTC is below this value at 12.64%. This is the lowest percentage of failing grades across all of the ND TCUs. Students at UTTC are performing better than average because a lower percentage of them are failing their courses.

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

Grades by Division

Tables 17 and 18 provide details regarding the grades UTTC students earned according to each academic department offering the courses. The total number of courses per department from which grades were provided is listed below 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 particular category is denoted using a dash (-).

Table 17 presents grades by division for Spring 2017.

Table 17. Spring 2017 Grades by Division

	A	B	C	D	F	W	WF	I	P
ACT (N= 1)	4	1	1	-	1	1	-	-	-
ALH (N= 3)	3	3	1	-	-	-	-	-	-
ART (N= 1)	4	-	-	-	-	1	-	-	-
ASC (N= 11)	36	13	10	3	22	15	-	-	-
AUT (N= 5)	16	13	2	-	4	7	-	-	-
BAD (N= 7)	26	11	10	-	5	5	-	-	-
BIO (N= 9)	31	15	13	1	5	9	1	-	-
BUS (N= 11)	31	14	6	-	9	5	-	1	-
CHM (N= 3)	3	4	1	-	-	-	-	-	-
CHN (N= 1)	-	1	1	-	-	-	-	-	-
CIS (N= 1)	3	-	5	-	1	-	-	-	-
CIT (N= 5)	25	3	2	-	3	-	-	-	-
CJU (N= 16)	65	20	9	3	7	9	-	-	-
COM (N= 3)	29	9	6	1	13	14	-	-	-
CSC (N= 6)	25	12	8	4	15	13	-	-	-
ECO (N= 2)	5	9	7	-	3	6	-	-	-
EDU (N= 7)	24	5	3	-	1	1	-	-	-
ENG (N= 6)	27	25	24	3	19	19	-	-	-
ENR (N= 2)	-	3	1	-	2	-	-	-	-
ESR (N= 7)	5	4	4	-	2	-	-	-	-
FND (N= 4)	15	7	11	1	7	4	-	-	-
GEO (N= 1)	-	3	1	-	-	-	-	-	-
GPE (N= 4)	8	1	1	-	3	4	-	-	17
HEO (N= 4)	17	13	2	-	-	8	-	-	-
HIS (N= 2)	10	9	3	-	2	6	-	-	-
HPR (N=1)	-	2	1	2	-	2	-	-	-
HSS (N= 4)	23	5	1	1	5	2	-	-	-
HUM (N= 7)	35	23	9	4	14	12	-	-	-
LAB (N= 5)	16	9	10	1	1	3	-	-	-
MTH (N= 12)	61	24	20	6	18	19	-	-	-
NAS (N= 4)	24	12	3	1	-	1	-	-	-
NUR (N= 7)	12	34	15	-	1	12	-	-	-

	A	B	C	D	F	W	WF	I	P
NUT (N= 7)	3	4	9	2	3	4	-	-	-
PHY (N= 3)	11	9	5	-	3	2	-	-	-
POL (N= 1)	8	6	6	2	1	5	-	-	-
PSY (N= 5)	40	27	10	1	8	7	-	-	-
SOC (N= 4)	42	21	12	3	10	10	-	-	-
TES (N= 6)	6	3	1	-	2	-	-	-	-
WLD (N= 5)	7	11	14	-	3	6	-	-	-

CJU was the department offering the largest number of classes with 16. These offerings are followed by MTH with 12 classes and ASC and BUS with 11 each. CJU, MTH, SOC, and PSY have the most As for Spring 2017. The percentages of passing grades for all of these departments is:

- CJU – 83.19%
- MTH – 70.95%
- SOC – 76.53%
- PSY – 82.80%

During Spring 2017, the two departments that contributed the most to student learning were CJU and PSY. Student success and learning in classes offered by CJU was strong in Spring 2017. This finding is encouraging because CJU offers classes for the Criminal Justice program, which means students are experiencing great success with this particular degree.

PSY classes are centered around psychology with classes like Intro To Psychology and Educational Psychology. These courses are important to various degree programs, and it is promising to see students passing these important milestone courses. It is also very encouraging to see high percentages of students passing MTH courses as math has traditionally been a challenging subject for AIANs.

SOC is an area that covers both sociology courses as well as Native American Studies. High passing rates for Native American Studies is important because it helps provide context for the Level 1 evaluation. Although students are not satisfied with the level of integration of AIAN culture in their classes, they are excelling at the courses that focus specifically on that subject.

ASC and ENG had the largest number of Fs in Spring 2017 with 22 and 19 respectively. ASC students again struggled with Effective Writing. ENG students earned the highest number of Fs in Composition I and II. ENG, along with MTH, had the highest number of withdraws with 19 each. These numbers indicate areas in which students tend to struggle the most. Writing and English classes in general have historically been a challenge for Native students. Research shows that 35,000 students who attend public schools and 10,245 students who attend Bureau of Indian Education schools were classified as English Language Learners (Musu-Gillette et al., 2017) in 2014. The challenges encountered by UTTC students should be enumerated, and existing support services like tutoring and writing labs should be modified accordingly.

Table 18 presents grades by division for Fall 2017.

Table 18. Fall 2017 Grades by Division

	A	B	C	D	F	W	P	Blanks
ACT (N= 1)	4	-	3	-	1	1	-	-
ALH (N= 2)	2	2	1	-	5	3	-	-
ART (N= 2)	6	3	1	-	-	-	-	-
ASC (N= 16)	91	27	20	5	22	59	-	-
AUT (N= 4)	12	5	12	-	2	6	-	-
BAD (N= 9)	43	15	9	-	1	13	-	-
BIO (N= 12)	24	14	16	2	20	18	11	-
BOT (N= 3)	16	4	2	1	1	5	-	-
BUS (N= 4)	13	11	8	1	7	4	-	-
CHM (N= 3)	6	2	-	-	1	3	-	-
CHN (N= 1)	-	2	-	-	-	-	-	-
CIS (N= 4)	27	4	-	-	1	4	-	-
CJU (N= 16)	48	21	28	8	17	28	-	-
COM (N= 3)	12	15	13	3	3	7	-	-
CSC (N= 6)	22	19	12	3	15	21	-	-
ECO (N= 2)	12	7	6	-	2	2	-	-
EDU (N= 11)	30	11	5	2	4	8	-	-
ENG (N= 6)	23	16	36	1	15	21	-	-
ENR (N= 1)	2	-	-	-	-	-	-	-
ESR (N= 6)	8	2	1	1	1	4	-	-
ETC (N= 1)	-	-	-	-	-	-	-	1
FND (N= 8)	49	34	33	6	17	45	-	-
GIS (N= 1)	2	-	-	-	-	-	-	-
GPE (N= 5)	2	2	1	-	4	8	44	-
HEO (N= 4)	20	8	-	-	-	-	-	-
HIS (N= 1)	2	2	2	-	6	5	-	-
HPR (N= 2)	5	1	1	1	-	1	-	-
HSS (N= 3)	16	1	1	1	3	-	-	-
HUM (N= 5)	42	28	19	5	4	12	-	-
LAB (N= 4)	15	12	2	-	7	7	-	-
MTH (N= 13)	40	45	23	5	24	37	-	-
NAS (N= 4)	14	-	3	-	2	1	-	-
NUR (N= 4)	3	20	21	2	6	18	-	-
NUT (N= 7)	6	14	15	3	4	13	-	-
PSY (N= 8)	31	41	10	1	8	28	-	-
SOC (N= 3)	22	21	15	2	7	6	-	-
SOI (N= 1)	1	-	1	-	-	-	-	-
TES (N= 5)	9	4	1	-	1	3	-	-
WLD (N= 4)	4	11	11	-	6	11	-	-

The most active departments during Fall 2017 were CJU and ASC, offering a total of 16 classes per department. The second highest offering comes from MTH with 13 classes and BIO with 12 classes. ASC, FND, CJU, and BAD had the most As among offerings in Fall 2017. However, before making a determination about student learning in courses from these departments, it is also necessary to consider the number of failing grades. The percentages of passing grades for each of the departments with the highest numbers of As is:

- ASC – 61.61%
- FND – 63.04%
- CJU – 64.67%
- BAD – 82.72%

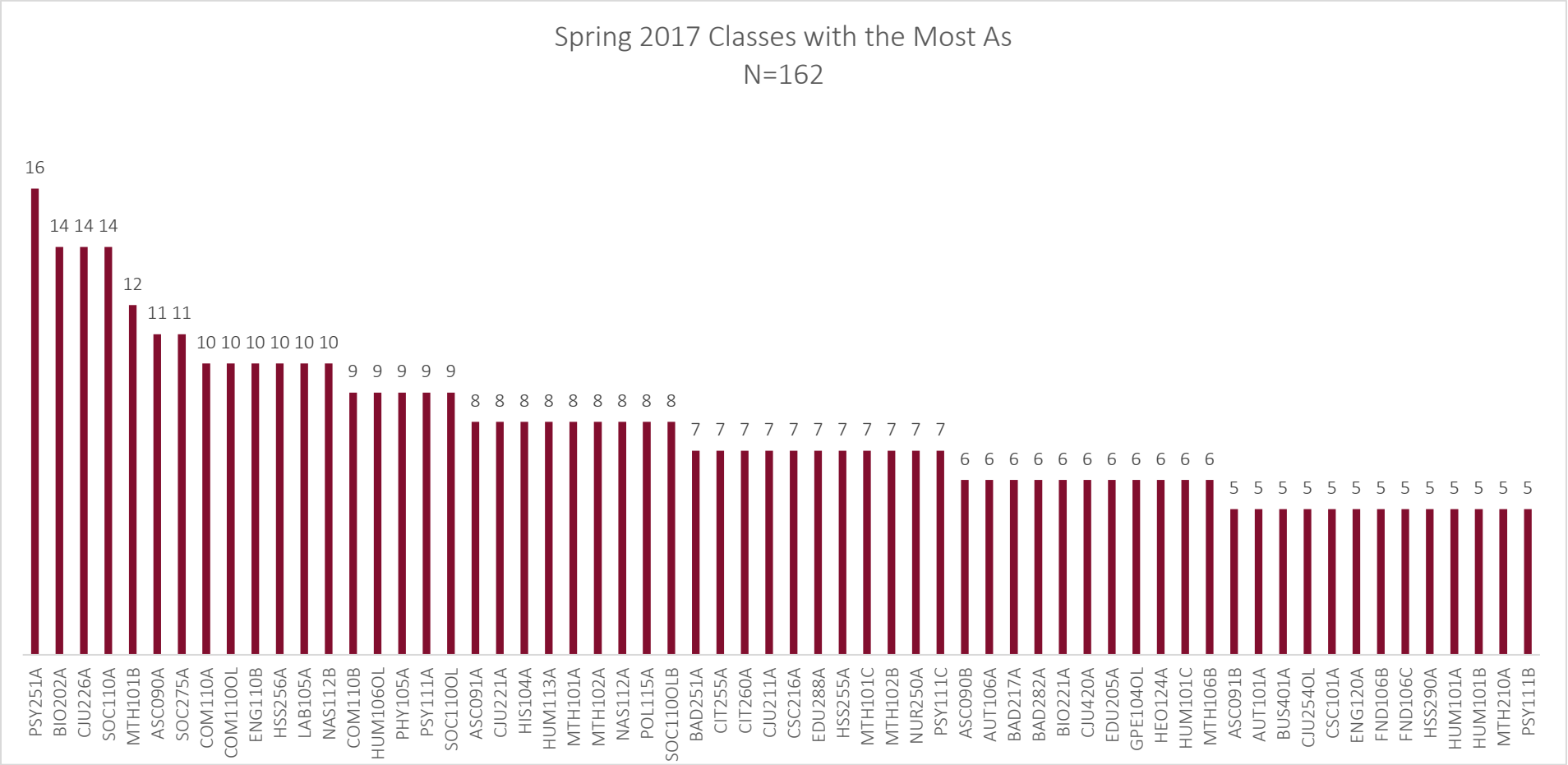
Based on the percentages, student learning was highest in students taking classes in BAD department. However, these percentages could be improved. The high numbers of withdraws in both ASC and FND drove down the percentages. They could speak to the presence of as much confusion as learning in these courses. Further evidence of this claim comes from ASC and FND having the second and fourth most Fs of all of the courses offered in Fall 2017. ASC courses with the most Fs were Effective Reading and Effective Writing. Students in FND classes had the most difficulty with First Year Exp & Healthy Living.

The department with the most Fs was MTH which had 62% passing grades. Many of the departments at UTTC passed students at about a 60% rate. The number of withdraws from courses can also be an indicator of student struggles. Again, we see ASC and FND in this category as the first and second departments with the highest number of withdraws with 59 and 45. MTH is third with 37 withdraws. During Fall 2017, student learning was strongest for classes in the BAD and CJU departments while courses from ASC, FND, and MTH proved to be most challenging for students.

Classes with the Most As

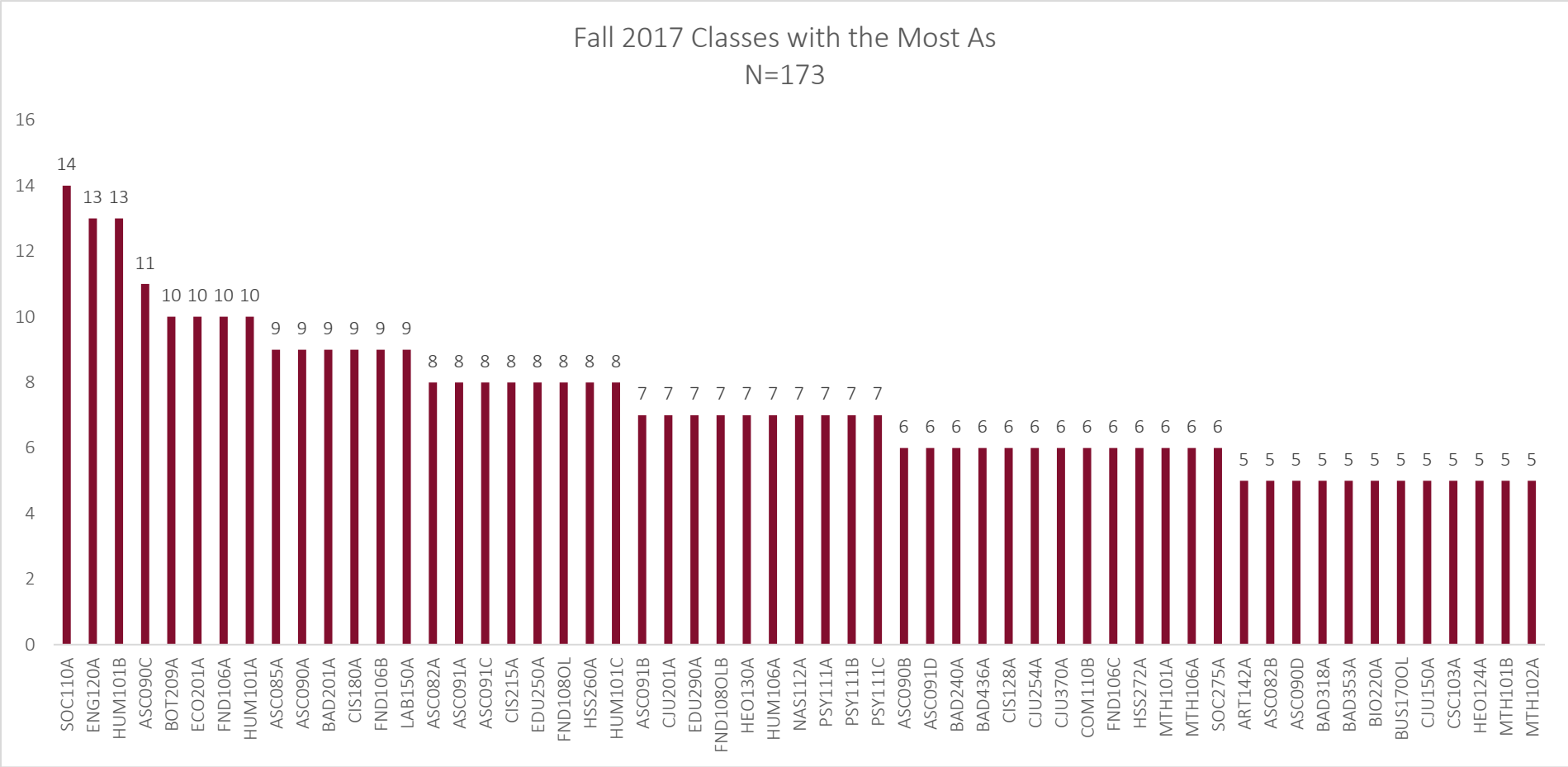
Figures 13 and 14 present the distribution of As by class.

PSY 251A, *Developmental Psychology*, was the class with the most As during Spring 2017. The top ten classes from Spring 2017 were well dispersed among different departments but included two from COM and SOC. Overall, the most frequent department on this list is CJU with 15 classes. MTH has the second most with 12 classes. Both of these numbers are in alignment with the high passing percentages for these two departments, as mentioned in the previous section.



Note: Classes with 1 A (N=36), 2 As (N= 22), 3 As (N= 25), and 4 As (N= 17) per class were excluded from this graphic.

Figure 13. Spring 2017 Classes with The Most As



Note: Classes with 1 A (N=30), 2 As (N= 42), 3 As (N= 23), and 4 As (N= 21) per class were excluded from this graphic.
Figure 14. Fall 2017 Classes with The Most As

SOC 110A, Sociology, was the class with the most As during Fall 2017. Overall, two SOC classes appear in this figure. The top ten classes with the most As includes two from HUM and ASC. HUM appears five times while ASC appears 14 times. CJU exceeds this number with 15 classes in total dominating this illustration of student success along with ASC.

Traditional and Contemporary American Indian Cultural Values

Students and graduates participating in the talking circle described how they learn traditional and contemporary American Indian cultural values in class and outside of class. Because of the cross-cultural nature of UTTC, students can learn about different cultures. One person described how amazing it was to go to school to see different tribes with one goal – to get an education.

Students are proud of culture and where they come from. Education cannot be taken from you, and that is something they have had to deal with all their lives.

One participant described how colonization "beat the culture out of Native Americans." By attending TCU, specifically UTTC, they could learn about their culture. One person coming from Alaska had the opportunity to represent Ubik language. Coming to UTTC and learning about different tribes and how some struggle to keep their language has made her realize how lucky she was to grow up traditionally. As another participant said, "I want to learn the other half of me." Being a student at UTTC is allowing her to do just that.

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 apply what they learn every day. As one participant said, "We serve as role models for others, whether we know it or not." Living American Indian cultural values allows them to be the best role models possible. Another talked about how she applies what she has learned in her personal life. It's not just about job skills, but about changing behaviors and engaging with the community. Participants talked about pushing forward and living with greater confidence. One participant talked about how she has tried to get her family to move to the area but, according to her, they are not risk takers. She has learned to take risks and is more comfortable doing so since coming to UTTC.

We are all elders for someone at some point.

Participants in the talking circles talked about how they are using their knowledge and skills such as one person who took a grant writing class and started thinking about grants; now she pursues grants for economic development. Another application is through leadership roles on

campus. One person said her degree from UTTC gave her the opportunity to advance. Her studies have brought her up a s a professional.

An important application outcome is one of paying it forward. As one talking circle participant described, it is important for Native people to do better for themselves. She is helping others just like she was helped. Another person serves in a summer youth program where she applies classroom management skills. As a result of courses, she is more aware of student needs.

Reliance on each other and building relationships were frequently mentioned during the talking circles. Attending school at UTTC helps students learn empathy and humility. They learn new skills to gain employment but, just as important, they learn new skills to serve others.

Impact on Indian Country

Level 4 results measure business impact and are important because they illustrate how behaviors being applied on the job are influencing key business measures (J. J. Phillips, 2003). This study was concerned with the impact of attending UTTC on Indian Country, such that graduating from UTTC should be considered according to the contexts of home, 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.

UTTC Impact

Figure 15 shows trend data in AIAN annual income for those who did or did not finish high school (HS), completed Associate degrees (AA), and had some college experience. A report by Musu-Gillette et al. (2017) for the National Center for Education Statistics 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 levels of education, so it should be no surprise that this figure is higher than those from 2006. The actual data compared against these baseline datapoints are the annual earnings of UTTC graduates from Fall 2017 and Spring 2018.

The average annual income for the 2006 figures is $26,400. Including the figure from 2014 increases the average to $27,080. However, the average income for a Fall 2017 and Spring 2018 UTTC graduate is $26,564.00. This average income figure is based on three reported quarters from Spring 2018 graduates. The annual earnings of UTTC graduates is 1.94% lower than the general trend baseline data of $27,800.00. This difference is inconsistent with a finding from the National Center for Education Statistics (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. UTTC graduates can expect to make more money per year than AIANs who have only graduated high school but less than AIANs who have not completed a college degree.

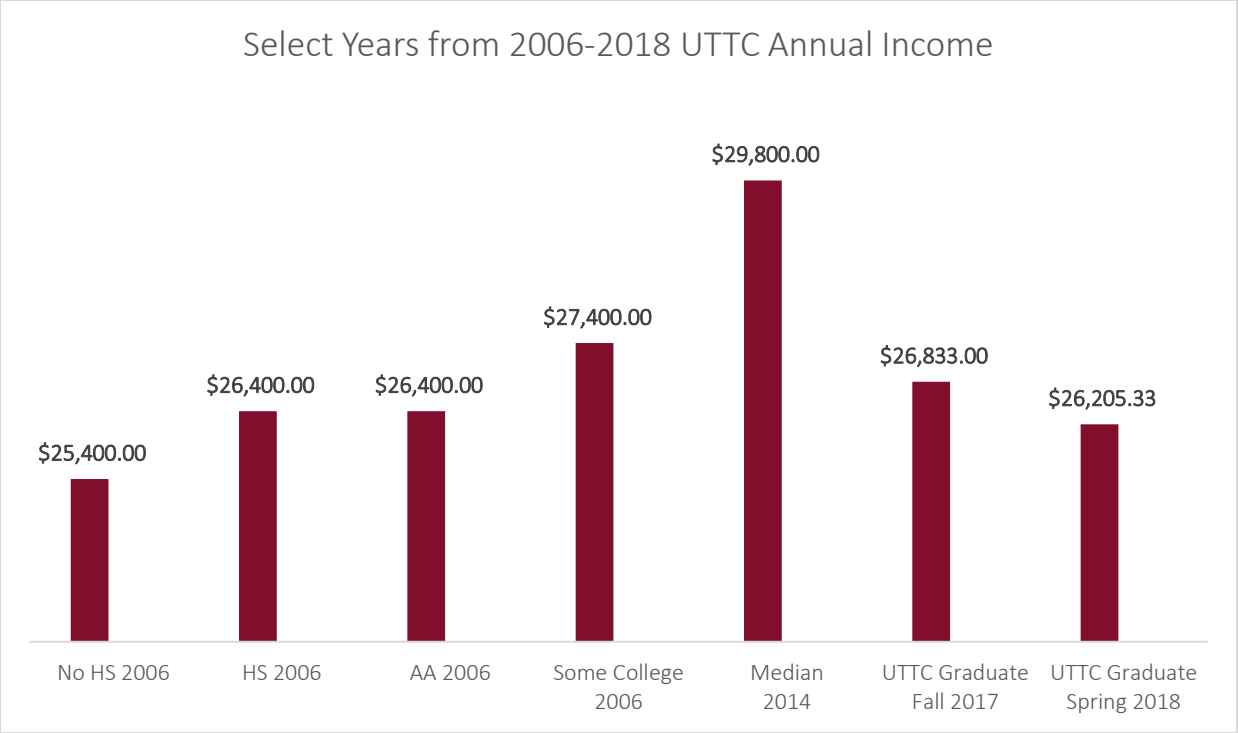


Figure 15. Select Years from 2006-2018 UTTC Annual Income

Before presenting the specific earnings data for UTTC graduates for Fall 2017 and Spring 2018, it is important to consider the degrees that were earned by these graduates as they are directly correlated with graduates' earning potential.

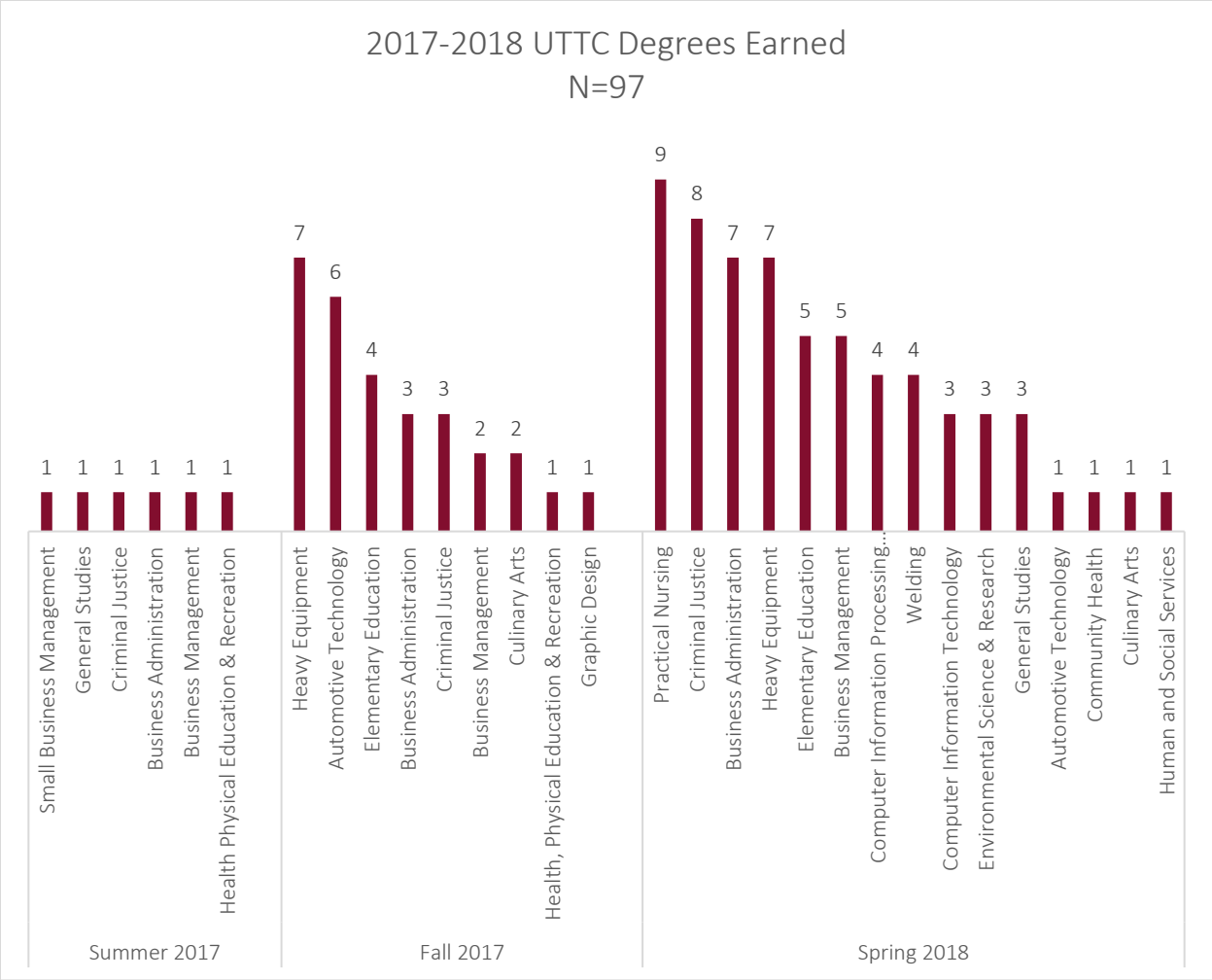
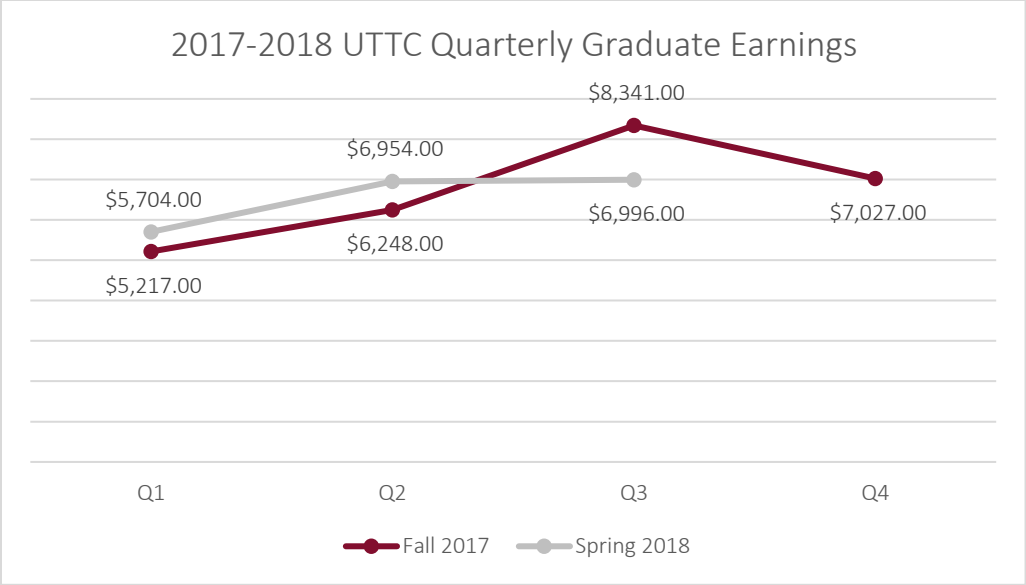


Figure 16. 2017-2018 UTTC Degrees Earned

The majority of graduates during the time period examined were graduates of the Practical Nursing or Criminal Justice programs with nine and eight graduates respectively from Spring 2018. These degrees are all at the associate level. The only four-year degrees among this group were the students who completed degrees in Business Administration, Criminal Justice, and Environmental Science & Research.

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 from the State of North Dakota does not provide the level of detail needed to determine which students became employed, it is still helpful in assessing the value of the degrees earned at UTTC.

Figure 17 displays the earnings for UTTC graduates who completed their degrees in Fall 2017 and Spring 2018 from state data.



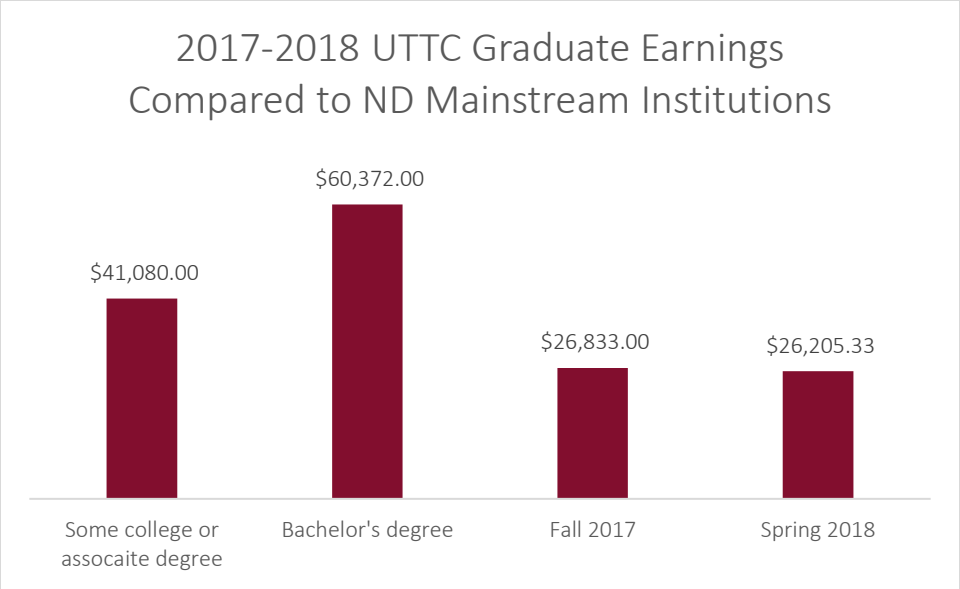
Notes:

1. There were 15 people employed from the Fall 2017 graduation date in Q1. In Q4 the number grew to 17 people. The inclusion of the additional two people being employed likely were the reason for the drop in average income from Q3 to Q4.
2. There were 41 people employed from the Spring 2018 graduation date in Q1. By Q3 the number had decreased to 28.

Figure 17. 2017-2018 UTTC Quarterly Graduate Earnings

The average earning of graduates from Fall 2017 is $6,708.25 per quarter, while the average for Spring 2018 graduates is $6,551.33 per quarter. Dispersed over three months, the average monthly income for Fall 2017 is $2,236.08, or $13.98 per hour. The monthly income for Spring 2018 graduates is $2,183.78, or $13.65 per hour. Annual earnings for Fall 2017 graduates of UTTC was $26,833.00 while Spring 2018 graduates made $26,205.33.

The two annual income figures that were 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 18.



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 18. 2017-2018 UTTC Graduate Earnings Compared to ND Mainstream Institutions

Although the earnings of UTTC graduates fail to meet these benchmarks, data from Burleigh county, where UTTC is located, can be used in order to make a more appropriate comparison with UTTC graduates. According to the U.S. Bureau of Labor Statistics (2018), the average weekly wage for Burleigh county during the third quarter of 2017 was $946. This means that the average monthly income would be $3,784, far exceeding the monthly incomes of $2,236.08 and $2,183.78 stated earlier.

Where the graduates from the Fall 2017 and Spring 2018 cohorts find work matters, especially if it is on the reservation because it represents a significant impact on Indian Country. Only 14% of Native Americans have college degrees (American Indian College Fund, 2018c). It is common for Native students who complete college degrees to leave their communities instead of returning home to build them up.

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 of the North Dakota Tribal Colleges according to number of graduates, average quarterly earnings, and employment trends. Data for this section was sourced from the State of North Dakota.

Figure 19 presents the number of graduates from each school for 2017 and 2018.

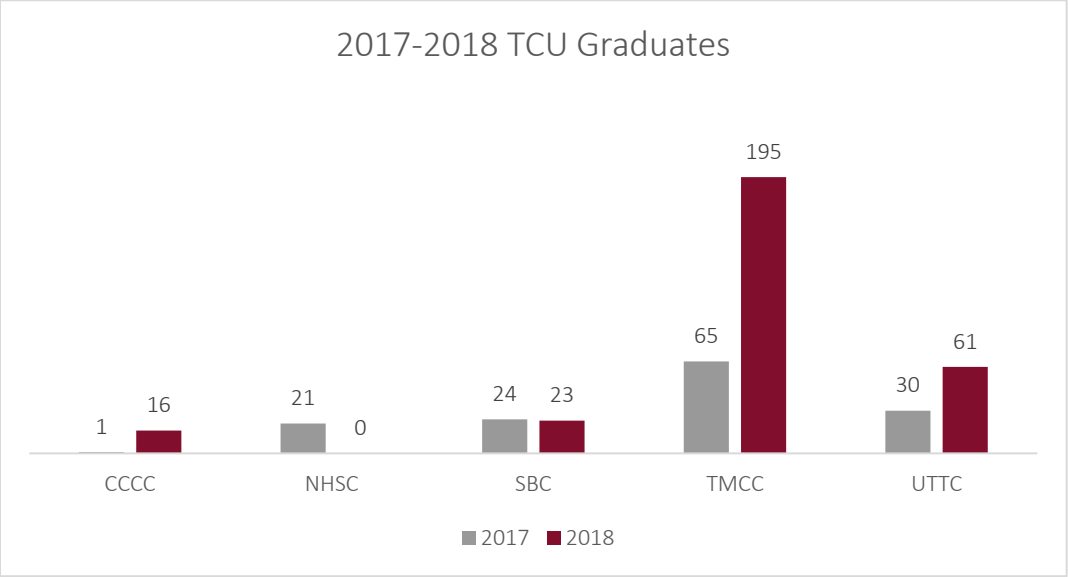
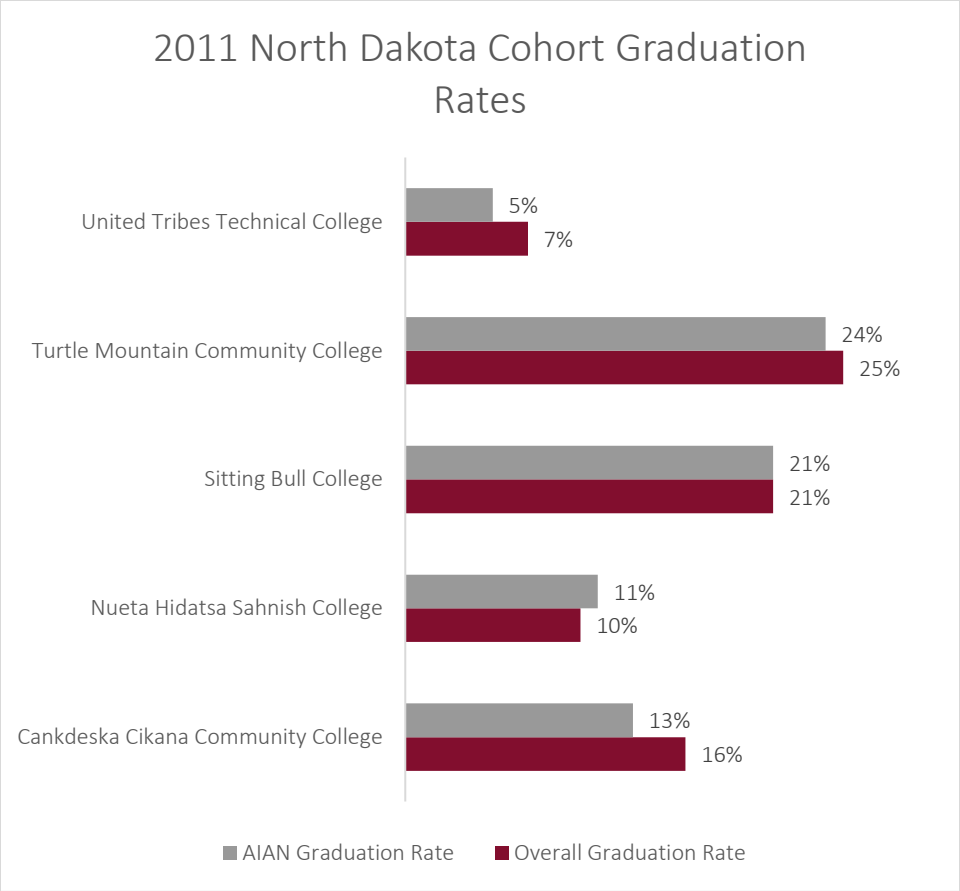


Figure 19. 2017-2018 TCU Graduates

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 20 presents graduation rates within 150% of normal time from the five North Dakota Tribal Colleges. Figure 20 shows the comparison.



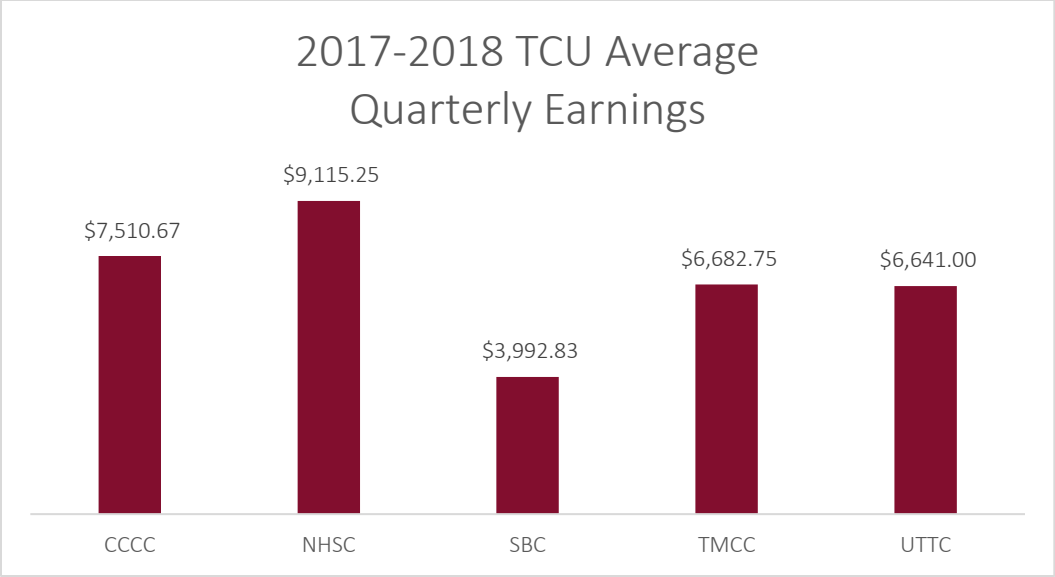
Source: U.S. Department of Education (2019)

Figure 20. 2011 North Dakota Cohort Graduation Rates

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 21 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 21. 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 22 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.

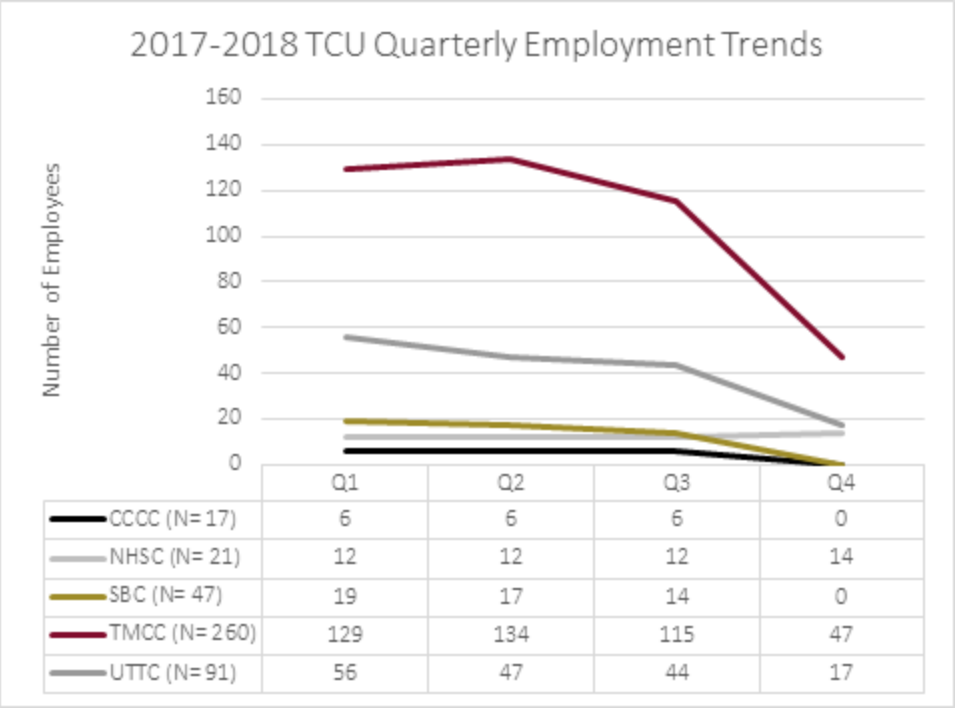


Figure 22. 2017-2018 TCU Quarterly Employment Trends

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 to costs (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 monetary 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 added to 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 UTTC graduates from Fall 2017 and Spring 2018 over four quarters for Fall 2017 and three quarters for Spring 2018 post-graduation. No data was available for the fourth quarter for Spring 2018 because it was not yet reported to the State of North Dakota by the time data collection for this evaluation was completed. No employment data was reported for the two students who

graduated in the Summer 2017 semester. Earnings varied from quarter to quarter for Fall 2017 and Spring 2018 graduates of UTTC. Therefore, all the quarterly data provided was averaged to calculate an overall yearly earnings average.

Table 19 shows the inputs to the numerator of the ROI formula.

Table 19. Data to Money Conversions

Units	Unit Value Avg 3 Qtrs Earnings	Annual Performance (P Δ)	Annualized Value
One Quarter Earnings (Fall 2017 and Spring 2018)	$6,641.00	4	$26,564.00

Program benefits are defined as the average earnings of UTTC graduates based on quarterly earnings data for graduates from Fall 2017 and 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 ($6,641.00) by the total number of quarters in a year (4). The resulting figure, $26,564.00, reflects the annual income for a graduate of the Fall 2017 and Spring 2018 cohorts. 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 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 a total of $15,080 assuming 52 weeks employed at 40 hours per week. The incremental value of graduating from UTTC as compared to high school graduation is:

$26,564.00 - $15,080.00 = $11,484.00

Multiplying this amount by the number of employed graduates (56) yields the incremental value for the employed graduating cohort for one year as $643,104.00.

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%, an UTTC graduate will earn $49,110.96 more than a person with a high school diploma when employed upon graduation in 2017 at 2017 value for money.

For the 56 students who gained employment after graduation, that is a total value added of:

$49,110.96 x 56 = $2,750,213.76

Assuming five years on the job instead of 4.2, an UTTC graduate would earn $59,141.02 more than high school graduates.

$59,141.02 x 56 = $3,311,897.12

Fifty-six (56) employed graduates was used instead of 91 overall graduates because no data was available for the remaining 35 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 20 presents UTTC's 2017 fiscal year general fund budget and was used as the costs to educate the total student enrollment of 315 students.

Table 20. UTTC Expenses

Item	Amount
Grand Total*	**$ 7,117,965**

* UTTC did not provide details for their budget but did provide total expenses.

The total cost provided in
Table 20 was allocated across all students to determine the total 2017 per student cost.

$$\frac{\$\ 7{,}117{,}965 \text{ total cost}}{315 \text{ students enrolled}} = \$22{,}596.71 \text{ cost per student}$$

One-year cost to educate the 2017-2018 cohort is $190,892.32 ($22,596.71 x 91 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, ROI, and payback period based on the benefits and costs calculated previously in this report for one year after graduation for the employed members of the graduating cohorts.

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

$$\text{BCR} = \frac{\$643{,}104.00}{\$2{,}056{,}300.61} = 0.31$$

The BCR of 0.31 indicates that for every dollar invested, 31 cents of the original dollar invested is returned in gross benefits.

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

$$\text{ROI (\%)} = \frac{\$643{,}104.00 - \$2{,}056{,}300.61}{\$2{,}056{,}300.61} \times 100 = -68.73\%$$

The -68.73% result is interpreted that for each dollar invested in UTTC, that dollar is lost along with another 69 cents. Given this negative result, it is important to know how long it will take for the investment in the employed graduates to breakeven. This is illustrated by the payback period formula.

The calculation for the payback period for the employed members of the graduating cohort is:

$$\text{PP} = \frac{\$2{,}056{,}300.61}{\$643{,}104.00} = 3.2 \text{ Years}$$

The 3.2 years payback period means that the income differential earned by the graduating cohort will breakeven with the investment made in their education after 3.2 years of employment. In 3.2 years, UTTC will recognize an ROI of 0% based on incremental student wages and one year of costs.

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

$$\text{BCR} = \frac{\$2{,}750{,}213.76}{\$2{,}056{,}300.61} = 1.34$$

The BCR of 1.34 indicates that for every dollar invested, $1.34 are returned in gross benefits.

The ROI calculation for attending UTTC if a graduate is employed for 4.2 years of benefits and one year of costs is:

$$\text{ROI (\%)} = \frac{\$2{,}750{,}213.76 - \$2{,}056{,}300.61}{\$2{,}056{,}300.61} \times 100 = 33.75\%$$

The 33.75% result is interpreted that for each dollar invested in UTTC, the original dollar invested is returned along with another 34 cents.

Table 21 presents a recap of the BCR and ROI calculations for various job tenures using one year of costs for the graduating cohort.

Table 21. Labor BCR and ROI Calculations with One Year of Costs for Graduating Cohort

	Benefits	Costs	BCR	ROI
1 year	$643,104.00	$2,056,300.61	0.31:1	-68.73%
4.2 years	$2,750,213.76	$2,056,300.61	1.34:1	33.75%
5 years	$3,311,897.12	$2,056,300.61	1.61:1	61.06%

ROI Institute's guiding principles require the most conservative approach when calculating ROI. To ensure this principle is met, it is important that we include all costs of educating the graduates for the entire time they attended UTTC. 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. For example, degrees were assigned values of either one or two or six 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 four-year degree takes six years to complete, the two-year degree generally takes three years, and the one-year certificate takes 1.5 years. In total, it took the cohort 197.25 years to complete their degrees. Using the cost per student previously calculated of $22,596.71, the total cost to educate and graduate the cohort is:

$$\$22{,}596.71 \times 197.25 \text{ years for cohort to graduate} = \ \$4{,}457{,}201.05 \text{ total costs}$$

The BCR of attending UTTC if a graduate is employed 4.2 years benefits and total costs is:

$$\text{BCR} \ = \frac{\$2{,}750{,}213.76}{\$4{,}457{,}201.05} = 0.62$$

The BCR of 0.62 indicates that for every dollar invested, $0.62 are returned in gross benefits.

The ROI calculation for attending UTTC if a graduate is employed for 4.2 years benefits and total costs is:

$$\text{ROI (\%)} = \frac{\$2{,}750{,}213.76 \ - \ \$4{,}457{,}201.05}{\$4{,}457{,}201.05} \times 100 = -38.30\%$$

The- 38.30% result is interpreted that for each dollar invested in UTTC, that dollar is lost along with another 38 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:

$$\text{PP} = \frac{\$4{,}457{,}201.05}{\$643{,}104.00} = 6.93 \text{ Years}$$

The payback period for total costs to educate the cohort is 6.93 years and generates ROI of 0%.

Table 22. Labor BCR and ROI Calculations

	Benefits	Costs	BCR	ROI
1 year	$643,104.00	$4,457,201.05	0.14:1	-85.57%
4.2 years	$2,750,213.76	$4,457,201.05	0.62:1	-38.30%
5 years	$3,311,897.12	$4,457,201.05	0.74:1	-25.70%

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 get while in school. Using the income differential between UTTC graduates and AIAN high school graduates tells the story of benefits realized after graduation. Including funding and support accounts for benefits realized while students are in school. Items like scholarships, tuition waivers, student travel, and utilities fall into this category of benefits. The average amount of financial aid received by UTTC students was included per the reporting of the U.S. Department of Education (2019).

This part of the calculation would benefit from the involvement of UTTC staff in identifying the appropriate portions of the budget to include. The total benefit was prorated by the total 2017 UTTC enrollment (315). 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 (197.25). The final amount of student funding and support was calculated to be $1,710,828.15 over the time the 91 graduates took to finish their degrees at UTTC.

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: $4,461,041.91
- 5: $5,022,725.27
- 10: $8,862,120.55
- 15: $13,313,026.31
- 20: $18,472,840.55

Determining the average cost of attending UTTC for the 2017-2018 graduates requires an average yearly cost of attendance and 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 UTTC for full-time, first-time degree/certificate-seeking undergraduates receiving grant or scholarship aid. During the 2014-2015 academic year, the cost was $6,861;

during 2015-2016, it was $6,813; and during 2016-2017, it was $5,914. The average of these figures, $6,529, was used to calculate the cost of attending UTTC.

Since 91 students graduated from UTTC in 2017-2018, the number of years typically required to complete their degrees (197.25) was determined based on the degrees awarded. The following calculation represents the total investment made by the graduates in their education at UTTC:

$6,529 x 197.25 = $1,287,845.25

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 UTTC graduates spent in school. The 91 students spent a combined total of 197.25 years completing their degrees. The average annual earnings for a high school graduate was determined to be $15,080.00 earlier in this report. The total lost earnings are determined by the following formula:

197.25 x $15,080.00 = $2,974,530.00

When the total cost of attendance is added to the total cost of lost earnings the resulting figure is $4,262,375.25. This figure was used to calculate the student BCR and ROI presented in Table 23. The benefits used in this section were listed in Monetary Benefits.

Table 23. Student BCR and ROI Calculations

	Benefits	Costs	BCR	ROI
1 year	$1,128,814.40	$4,262,375.25	0.26:1	-73.52%
4.2 years	$4,461,041.91	$4,262,375.25	1.05:1	4.66%
5 years	$5,022,725.27	$4,262,375.25	1.18:1	17.84%
10 years	$8,862,120.55	$4,262,375.25	2.08:1	107.92%
15 years	$13,313,026.31	$4,262,375.25	3.12:1	212.34%
20 years	$18,472,840.55	$4,262,375.25	4.33:1	333.39%

The BCR and ROI figures are favorable to the students graduating from UTTC. The projections displayed in Table 23, are consistent with several studies that examined the value of a college degree. For example, 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. It would take less than 4.2 years to break even given all the money students invest in their educations at UTTC. Realizing the monetary value of an education at UTTC happens within the typical time an employee stays at a given job. There are also various intangible benefits of being an UTTC graduate that show up 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 UTTC does not pay off in 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 giving back to the community while still being in a better position financially. Based on the research, the answer would be yes. Graduates of UTTC are giving back as are current students. 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 serving as role models and encouraging others to pursue their education.

A second question is, would the community be better off without UTTC. The answer to this question, is no. The TCU is helping lift up 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, if they want them. But, even more so, by embracing their culture and living their values, their network is growing. Graduates are taking on leadership roles they would not have had they not attended school. And it's just about attending any school. UTTC and other tribal colleges offer an environment where individuals can thrive despite their past. Learning among like people encourages success. This encouragement and the resulting success is evident, not just in data, but more importantly in the voices heard during the talking circles. The next section offers some of the key comments heard during talking circles.

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Voices

On April 5, 2019, Dr. Jen Janecek-Hartman and Dr. Patti Phillips listened to six graduates and students as they described their experience attending and graduating from United Tribes Technical College (UTTC). They learned that UTTC is a safe place and enables students to be their very best. Graduates give back by serving as role models and nurturing others as they have been nurtured during their experience at UTTC.

UNITED TRIBES TECHNICAL COLLEGE

Tell us about your experience going to school at UTTC.
I like the small campus. Everyone knows everyone.

I also like the smaller classes and one-on-one attention. There are so many resources, you could not help but succeed. A lot of financial resources.

The classes are small, but also everyone is very friendly. You gain friends and family members. The experiences of others help you move forward. There is always something to get involved in – things make it easy for students to get involved.

I concur. Also, the culture – you attend school with faculty who know the culture. The Native American waiver also plays an importance. You will leave school with no debit.

I was at Montana (Billings) and felt like I was just a number. I had no personal connections. I transferred to UTTC and got that. UTTC supported me. In Billings I had to drive; here I can walk wherever I need to go. There are no bills here. My goal is to assist and advocate for traumatized children.

My sister pushed the tuition waiver at me. I was looking for a change and left with two children. I like the small classes. I did not like the online classes. The entrepreneur classes opened ideas on a business at Standing Rock.

How have you applied what you learned during your college experience?
The grant writing class started me thinking about grants I can pursue for economic development.

I've been able to apply what I've learned through leadership roles on campus. My degree has given me potential to advance.

I try to nurture people to do better for themselves. I am a survivor. I knew I would run into obstacles, but I had children watching. UTTC helped. I use what I learned in dealing with others. I can hear where they are coming from.

I served in the summer youth program. I like classroom management. You are more aware of student needs and student activities. It feels good to give back to the community. I hope to be a teacher.

People rely on each other and their relationships.

I was in Elementary Education. Last Fall I moved to human services. I got a job at the "Y" with kids. I work with kids and give them a safe place. I teach others about classroom management; also, I teach kids how they should behave. I have been accepted at University of Mary.

I started here in 2017. My boss threw grants on me. I was in the grants class at the time, so that was helpful.

What impact has the application of knowledge, skills, and information gained by attending tribal college had on you, your organization, and your community?
I have more confidence. Maybe I can do more. I recognize I may not be at full potential.

I've learned to push forward – no matter age, you can still get the education.

It has been steady impact – influence on community with summer youth program. I have applied organizational skills to activities for students. Many kids come to tribal college because of culture and they like the tribal feel of the environment.

There has been an impact on my children. They see me study and go to class. I am trying to demonstrate accountability to my kids. My 16-year old researched language camps and did her own fund raising. Now she is college driven and may pursue a major in international business. She is studying Korean. Her tuition for language camp has been paid in full.

We are role models whether we know it or not.

We are all elders for someone at some point.

I now know lots of people who are different. Going to school here has broadened my thinking process. I have learned a lot about languages, culture, and history.

Tribal colleges were built because of the need for Native American students to flourish. It is powerful to know colleges and communities want us to succeed.

Cultural values are taught one way or another in each class.

We help other Native Americans support others to get and finish degrees. I want to start a business to help my community.

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

Coming from Alaska I had a role to represent Yupik language. Coming to UTTC I have learned about different tribes and how some struggle to keep the language and I learned about colonization. I realize how lucky am to grow up traditionally.

Everyone is from different tribes. We can learn different cultures. It has opened my mind.

It is amazing to go to school and to see different tribes with one goal – to get an education. Students are proud of their cultures and where they are from. Education cannot be stripped from you and that is something we have had to deal with all our lives.

Tribal colleges were built to support tribal students. I like coming to a state where each tribe has its own college. I want one day for my tribe to have a college.

My first experience was in 2015. It made me so proud to go to the mandatory cultural summit. Same with the Pow-Wow.

Colonization beat the culture out of the Native Americans. It is good to come here and learn about it.

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Conclusions

This section presents conclusions that were drawn from the evaluation. Conclusions are presented according to the TCU-ROI conceptual model.

Impact of Tribal Colleges on Indian Country

At Level 0, Count/Number of Participants, it is clear that most of the students enrolled at UTTC are AIANs. High enrollments of AIANs at UTTC is a historical trend; this indicates that the resources being dedicated to educating people from Bismarck and the surrounding areas are going to the people who need them most. These resources should have a positive influence on Indian Country because many AIANs are enrolled and are completing their degrees. Graduates are completing Business and Language Arts degrees the most.

At Level 1, Reaction and Student Satisfaction, satisfaction measures for UTTC courses were high on average and fairly consistent across the semesters in the evaluation. Courses from EDU stood out from the rest with scores that consistently exceeded the 4.5 mark. These high ratings suggest that the program in Elementary Education is driving student success and that graduates are likely to be well prepared in terms of the curriculum once they graduate from school. On the other hand, the courses that lagged in terms of student satisfaction were from BAD. These courses failed to meet the 4 out of 5 standard set for the student satisfaction evaluation in almost all items.

Regarding self-selected satisfaction measures, students indicated that they were highly satisfied with the amount of participation provided by courses at UTTC. The area that struggled most was knowledge of culture included in courses. Appreciation for diversity and active participation also had a number of scores that were below the 4 out of 5 success standard. In terms of instructor related satisfaction measures, knowledge of subject, and ability to help students were the highest rated areas. This is a wonderful combination in that experts are readily available to provide support to students when it is needed.

At Level 2, Learning, the strongest performing courses during the evaluation period came from CJU. The improvement of this department increased from 65% passing grades to 83%. An interesting finding is that courses in BAD had extremely high passing rates of 83% in Fall 2017. Given the troubles these courses had in terms of students' satisfaction, it is curious to find such high passing rates. In this particular case, student satisfaction did not have a strong correlation to student outcomes. Students generally struggled with courses in MTH even though high numbers of students also passed these courses. Another area with similar traits is ASC. Courses in this area that students struggled with have to do with building written communication skills.

Results at Level 3, Experiential Learning and Internships, while not quantitative, indicate that students and graduates are applying what they learn. Whether that application is in class or in the community, students are given technical skills and life skills they need to succeed. As

importantly, they are sharing their knowledge with others, leading to a growing network of like-minded people.

This evaluation found that, at Level 4, Impact on Indian Country, UTTC graduates did earn more than AIAN high school graduates in their area. However, UTTC graduates do not compare favorably to people 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 behind incomes in the rest of the country. Therefore, the incomes of AIANs who are college educated should be expected to fall short of comparisons 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 of the report presents recommendations based on the conclusions drawn in the previous section of this evaluation.

Opportunities for UTTC

According to the Level 1 results, one of the particular weaknesses was the lack of attention that was paid to evaluating appreciation for diversity and the extent to which knowledge of AIAN culture is included in courses at UTTC. The constant evaluation of this item should be a top priority for the institution as a tribal college. Keeping track of this metric will assure that all classes provided by UTTC will meet their goal of providing an education that is sensitive to culture and traditions.

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

Perhaps the biggest opportunity to improve student learning can be found in Math and English. Students struggled overwhelmingly in these two subjects as compared to the rest of the curriculum offered at UTTC. Struggles included courses like Algebra Prep I and II and Composition I and II. Generally speaking, UTTC is already aware of the issues students have with these and other challenging subjects as it provides professional tutoring services and an online tutoring service called Smarthinking. This awareness and the existing tutoring services are likely a great benefit to students, but more needs to be done to diminish 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. At any rate, further student support services should be offered to assist students with their Math and English courses.

As this is the first time that an ROI study has been conducted with a Tribal College, there are numerous opportunities for UTTC 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 up 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. Sanchez to present at the September 4, 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*. It 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. The influence attending TCUs has on tolerance would be of interest to publishers of journals and books that focus on diversity and inclusion.

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.

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Appendices

Appendix A. Definitions, Terms, and Acronyms

Degree Name Acronyms

ART Art-Art Marketing
ARTF Art/Art Marketing - Fine Arts
ARTFC Art/Art Marketing - Fine Arts Cert
ARTG Graphic Design
ARTGC Art/Art Marketing - Graphic Arts Cert
ARTM Art/Art Marketing - Media Arts
ARTMC Art/Art Marketing - Media Arts Cert
AST Automotive Service Technology
AUT Automotive Technology
AUTC Automotive Technology-Certificate
AUTDL Automotive Diploma
BAD Business Administration
BBAD BS Business Administration
BCJU BS Criminal Justice
BEDU BS Education
BMGT Business Management AAS
BOA Business Admin. Assist
BOI Business Info Specialist
BOM Business Office Medical
BOMC Business Office Medical-Certificate
BOT Business Office Technology
BOTC Bus. Office Admin. Assistant
BOTIP Information Processing Specialist - AAS
BOTME Business Office Technology-Medical
BOTO Business Office Technology-Administrative
BSBAD Bachelor of Science, Business Administration
BSCJU Bachelor of Science, Criminal Justice
BSEDU Bachelor of Science, Education
BUS Business Administration
CARP Carpentry
CDL Heavy Equipment CDL
CDLC Commercial Drivers License Certificate
CEU Continuing Education
CIS Computer Information Technology
CIT Computer Information Technology
CITC Computer Technology-Certificate
CJ Criminal Justice
CJAAO Criminal Justice Associate Online
CJU Criminal Justice
CJUC Criminal Justice Cert
CST Computer Support Technician
CT Construction Technology
CTE Construction Technology
CTEC Construction Technology Certificate
DC Dual Enrolled High School Student
EAPC Energy Audit Program-Certificate
EATC Electrician Apprentice Training
ECE Early Childhood Education
ECEC Early Childhood Education - Cert
EDU Elementary Education
EDUC Elementary Education - Cert
EED Elementary Education
EFT Environmental Field Tech-AAS
EFTC Environmental Field Tech-Certificate
ELC Electrical Technology
ELEC Electrician-Certificate
ELT Environmental Lab Tech-AAS
ELTC Environmental Lab Tech-Certificate
ENR Pre-Engineering
ENRC Pre-Engineering-Certificate
ESR Environmental Science and Research
GENAA General Studies
GENO General Studies AS Online
GIS Geographic Info Sys Tech
GISC Geographic Info Sys Tech
HEOC Heavy Equipment Operation Certificate
HIT Health Information Technology-Coding
HITC Health Information Technology-Certificate
HITD Data Analysis
HITM Medical Transcription
HITMT Medical Transcription
HLH Community Health

HPR Health, Physical Educ. & Recreation
HSM Hospitality Management
INJ Injury Prevention
IPC Injury Prevention
LBARC Liberal Arts-Certificate
LBART Liberal Arts-AAS
LPN Practical Nursing
MEDD Medical Coding and Billing
MR Medical Records
MT Medical Transcription
NF Nutrition and Food Service
NON Non-Degree Seeking
NONDC Non-Degree Dual Credit
NUR Practical Nursing
NUT Nutrition and FoodService
NUTF Culinary Arts and Nutrition
NUTFC Culinary Arts/Foodservice Cert.
NUTN Nutrition and Wellness AAS
NUTNC Nutrition Arts Certificate
NWAAO Nutrition and Wellness AAS Online
OEC OV Early Childhood Education
OOT OV Office Technology
OT Office Technology
OTA Office Technology Advance
OTAAM Office Admin. Assistant Medical
OTAAO Office Admin. Assistant General
OTC Business Clerical
OTIPS Info. Processing Specialist
SAC Substance Abuse Counselor
SBM Small Business Management
SBMC Small Business Management Cert
TES Tribal Environmental Science
TESC Tribal Environmental Science Cert
THM Tourism and Hospitality Management
TRM Tribal Management
TRMC Tribal Management Certificate
TRN Medical Transcription
TRNC Exact Medical Transcription-Certificate
TRT Tribal Tourism Certificate
TT Tribal Tourism Associates
UN Undeclared
WLD Welding Technology
EDUOL Elementary Education Online
BMGOL Business Management AAS Online
HSS Human and Social Services
PHN Nutr/Foodserv - Public Health
CHN Community Health
BSESR Environmental Science & Research
IPS Information Process Specialist
GENA General Studies
GENOL General Studies
AGR Sustainable Agriculture & Food Systems

Appendix B. United Tribes Technical College Course Evaluation Form

Instructor Questions

Questions

Selected Questions	Response Set
The instructor treated the students with respect.	5-Pt Scale-UTTC: SD->SA
The instructor was knowledgeable in the course subject matter.	5-Pt Scale-UTTC: SD->SA
The instructor was available for assistance to the students throughout the semester.	5-Pt Scale-UTTC: SD->SA
The instructor evaluated and returned tests and assignments within a reasonable time.	5-Pt Scale-UTTC: SD->SA
The instructor provides questions for discussion that are meaningful and help me think critically about the concepts of the course.	5-Pt Scale-UTTC: SD->SA
The instructor made changes to the class based on comments made on the midterm course assessment.	5-Pt Scale-UTTC: SD->SA
Any additional comments regarding the instructor?	Long Answer

Student Questions

Questions

Selected Questions	Response Set
I actively participated and thoughtfully contributed to the class.	5-Pt Scale-UTTC: SD->SA
I invested enough time and energy in the course to meet and/or exceed requirements.	5-Pt Scale-UTTC: SD->SA
The grade I received in the class was appropriate based on my attendance, effort, and assignments.	5-Pt Scale-UTTC: SD->SA
Any additional comments regarding your commitment to this class?	Long Answer

Selected Questions	Response Set	Response Required (All None)	SI (All None)	Private (All None)
The objectives listed in the syllabus for the course were clear.	5-Pt Scale-UTTC: SD->SA	☐	☑	☐
The readings and assignments were relevant to the course.	5-Pt Scale-UTTC: SD->SA	☐	☑	☐
Traditional and contemporary knowledge about American Indian cultures were present in this course.	5-Point Likert Scale w/NA	☐	☑	☐
The course helped me better understand and appreciate the diversity of the world around me.	5-Point Likert Scale w/NA	☐	☑	☐
The course was organized and explanations were understandable?	5-Pt Scale-UTTC: SD->SA	☐	☑	☐
The course allowed for active class participation.	5-Pt Scale-UTTC: SD->SA	☐	☑	☐
The course required me to use technology.	5-Pt Scale-UTTC: SD->SA	☐	☑	☐
What were the most valuable aspect(s) of the course?	Long Answer	☐	☐	☐
What were the least valuable aspect(s) of the course?	Long Answer	☐	☐	☐
Any additional comments regarding the course?	Long Answer	☐	☐	☐

Appendix C. 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 like 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	