



## AN EVALUATION OF THE TRIBAL COLLEGE FACULTY-FACULTY RESEARCH PARTNERSHIPS

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### BACKGROUND AND CONTEXT

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Native Waters on Arid Lands (NWAL; <http://nativewaters-aridlands.com>) seeks to enhance climate resiliency of Tribal communities of the Great Basin and American Southwest by building the capacity to develop and implement reservation-wide plans, policies and practices in support of sustainable agriculture and water management.

One of the aims of this five-year (2015-2020) project is to build capacity in research and education to support climate resilience. Education, inquiry, and the ability to gather knowledge to respond to one's own communities' questions, is part of resilience. Research is a channel for resilience-building as communities use inquiry to answer important questions about past and future adaptation.

This report outlines the results of the pilot Faculty-Faculty Research Partnerships (FFRP), a partnership between NWAL, the Desert Research Institute (DRI), the First American Land Grant Consortium (FALCON), and select Tribal Colleges and Universities (TCUs). FALCON is a subsidiary organization of the American Indian Higher Education Consortium (AIHEC), as it is interested in increasing the capacity of Tribal Colleges' research infrastructure and offering career development opportunities for its faculty.

The aim of the FFRP is to build capacity for research at Tribal Colleges. **In the context of the FFRPs program, capacity-building for research includes the ability to offer professional development to faculty, to obtain funding, to involve students in research, and to build research infrastructure.** This report outlines the FFRP structure, evaluation approach, the results of the pilot year with Aaniiih Nakota College, and recommendations for the FFRP in the future.

**Need for FFRP.** Tribally-led research offers many opportunities for faculty career development. However, many TCUs lack research infrastructure to sustain capacity for research. In a 2004 survey of TCU faculty, opportunities for professional development and growth - including research opportunities - were underscored as priorities for retention and continued engagement (Voorhees 2004). TCU faculty involvement in research provides professional development opportunities while at the same time building the human capital needed for Tribally-led research. Many TCU faculty have earned Bachelors and Masters degrees, but PhDs are more rare, underscoring the importance of partnership with research institutions in building capacity for research at TCUs. Furthermore, there is a lack of participation by minority-serving institutions, including TCUs, in funding programs at such agencies as

the USDA National Institute of Food and Agriculture (NIFA). Capacity building for research can increase the participation in these funding opportunities.

Research experiences also offer opportunities for student career development. Among NWAL Tribal partners, youth engagement – particularly internships in STEM – is expressed as a priority over and over again. For students in two- and four-year college programs, undergraduate research offers numerous benefits, including skill-building opportunities and the chance to build confidence and career readiness for their future professions. Two-year colleges play a crucial role in educating our future STEM professionals, and programs that enhance experiences for undergraduates, such as research experiences, need to continue to be at the center of our focus (Boggs 2010). Despite the documented benefits of undergraduate research programs, there remain barriers to building infrastructure for undergraduate research at primarily undergraduate institutions, including minority-serving institutions and particularly TCUs.

Thus, there is a need to support Tribally-led research at TCUs for continued capacity-building, which will provide experiential learning opportunities for students and growth in careers of TCU faculty. The FFRP responds to this need in the ways discussed in the next section.

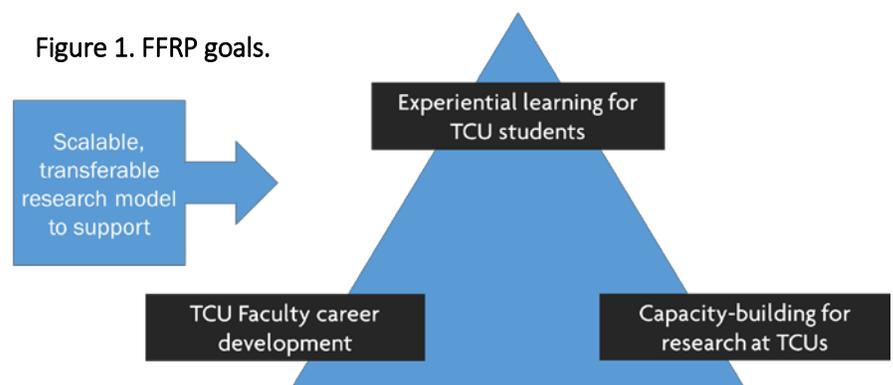
## FACULTY-FACULTY RESEARCH PARTNERSHIPS

**The structure** of the FFRP is as follows: a faculty member from a TCU partners with a faculty member from a research institution to collaboratively propose and execute a research project. TCU students are involved as research assistants to build research skills and to foster career readiness. Funding is provided by NWAL and FALCON to support students and faculty. In the pilot program, a competitive seed grant opportunity was circulated throughout the FALCON networks, and FALCON helped to facilitate the pairing of faculty members. Applications were received and selected by a committee comprised of FALCON and NWAL project leadership.

**The goal** of NWAL and FALCON is to identify a scalable and transferable model that can be employed in TCU research partnerships across the country. Figure 1 depicts these goals. The FFRP takes a pipeline approach to capacity-building, where the partnerships are designed to develop the careers of individuals at all stages of the pipeline, from students to recent graduates to faculty members, with an emphasis on early-career. This approach helps to grow professional networks and supports the establishment of new research areas. A Tribally-led approach to building capacity for research is central to the project, where projects are aligned with the aims of the TCU or department. Feedback on the FFRP model was sought during NWAL Tribal Summits 2016 and 2017, the American Indian Science and Engineering Society (AISES) conference 2017, and FALCON

conference sessions on STEM in 2016 and 2017. We were also given feedback on the model by numerous Tribal College faculty, students, and stakeholders, including from Diné College, Navajo Technical Institute, Salish Kootenai College at the NWAL Climate Workshops in Reno, NV, Tsaile, AZ, and Parker, AZ in 2017.

Figure 1. FFRP goals.



**Pilot Program.** NWAL and FALCON piloted the FFRP with Aaniiih Nakoda College (ANC) in Fort Belknap Agency, Montana, during summer 2017, funding ANC faculty member Brian Grebliunas, PhD, and ANC student researcher Joel Doney. ANC partners worked with Desert Research Institute (DRI) researcher Richard Jasoni, PhD, to jointly develop and carry out a project on agricultural water use and irrigation in ANC’s two-acre demonstration garden.

Figure 2 depicts the partner roles on the project. Appendix A contains a description of the research. This pilot offered a unique opportunity to demonstrate the viability of a future agricultural re-use project at ANC for a grant proposal, which was subsequently funded. The college has a thriving two-acre demonstration garden in production since 1998, supported by the Project Director, Manny Morales, and interns/trainees (3-10 per

year). Joel Doney, the intern supported by this project, worked 40 hours per week during the summer. Several crops are raised including corn, pumpkins, gourds, tobacco (for ceremony), onions, zucchini, lettuce, and potatoes. The garden is also a community focal point, where it is used to teach food sovereignty, and is a place where stories are shared, and people engage in harvesting and sharing food.

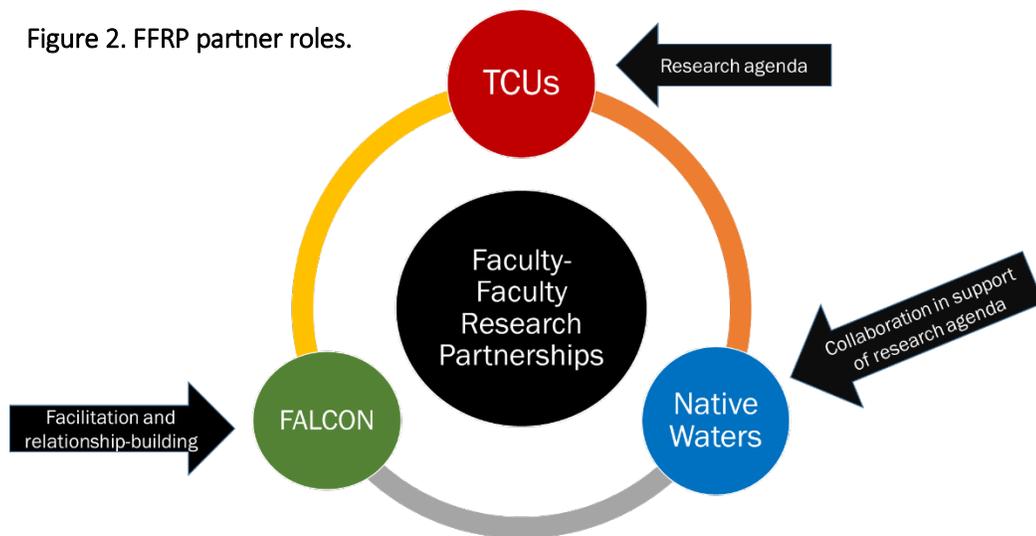
**Aaniiih Nakoda College.** ANC is a Tribal College with Equity in Educational Land Grant Status granted in 1994, i.e., it is a “1994” Land Grant institution. ANC’s mission is, “to provide quality post-secondary education for residents of the Fort Belknap Indian Reservation and surrounding communities. The college promotes individual and community development by maintaining and revitalizing the indigenous lifeways of the Aaniinen and Nakoda Tribes and by preparing students to succeed in an American technological society.” An Associates of Environmental Science degree is offered. The faculty-to-student ratio is 10-1, and there are approximately 139 students enrolled in the college.

The ANC faculty partner on this project, Brian Grebliunas, PhD, is an early-career faculty member who spends between 10-25% of his time yearly on research. He teaches and advises students in the Environmental Science degree program. His aspirations for research include expanding current projects in the areas of research-based coursework and agricultural water reuse.

## EVALUATION METHODS

Effort was dedicated to evaluating the pilot FFRP to gather the knowledge needed to propose a scalable, transferable model for the program. The central question we aimed to answer in the evaluation is: Is the FFRP an effective partnership model to build capacity for research? The evaluation for the pilot program was conducted under the blanket IRB for the NWAL project, held by the University of Nevada-Reno.

**Figure 2. FFRP partner roles.**



**Evaluation questions.** The following evaluation questions were considered:

- A. What are the barriers to participating in the FFRP?
- B. What are the benefits of participating in the FFRP for TCUs?
- C. To what extent does the FFRP build capacity for a sustainable research program?
- D. What lessons transferable can be learned for the future of FFRP and other programs?

Evaluation relied on a mix of quantitative and qualitative methods, emphasizing qualitative methods to better capture experiences of Native American individuals (Guillory and Wolverson 2008). For the ANC faculty partner, a semi-structured interview was used with open-ended questions that sought to understand benefits, challenges, and barriers to participation in the FFRP. A retrospective survey was also used to understand the faculty member's perceptions of the professional development gained, program structure, and skills enhanced. For the ANC student research assistant, a retrospective survey was completed to understand self-perceived competencies in STEM research, self-efficacy in STEM, and the barriers and benefits to participation in the project (Bernacki and Perera 2017). Additionally, interviews with ANC administrators and faculty explored the factors that supported participation in research, barriers to participation, and research capacity-building at the college.

Interviewees in the evaluation study included:

- Brian Grebliunas, PhD: ANC faculty partner and instructor in Natural Resources / Environmental Science
- Joel Doney: ANC student research assistant
- Carole Falcon-Chandler, PhD: ANC President
- Sean Chandler, PhD: ANC Interim Dean of Academics
- Manny Morales: Program Director of the ANC demonstration garden
- Dan Kinsey, MS: ANC instructor in Natural Resources
- Chelsea Morales, MS: ANC instructor in Allied Health

## EVALUATION RESULTS

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### A. What are the barriers to participating in the FFRP?

The barriers at ANC to participating in the FFRP were time and building trust to collaborate on research.

Time. The main barrier to participating in research programs such as FFRP is lack of time. Teaching faculty at TCUs are committed to teaching courses, advising, service, and community endeavors. Capacity for research can be limited due to faculty high instructional loads and lack of available time, as well as the student support needed to carry out research and applied projects. Student time is also needed for research in the demonstration garden.

Brian Grebliunas:

- "On paper I cannot take on more research as my time is already at 100%. Being involved in three projects is currently manageable but being involved in additional projects may become difficult as I typically teach 3-4 courses per semester."

Manny Morales:

- "Getting labor for the garden is hard because it is a small community. We need labor because the garden is organic (no sprays), and there is not much equipment."

Building trust to collaborate on research. Another barrier to participation in research relates to forming trust with collaborators from larger research institutes. This relates to leadership on proposals, ownership of data, and giving credit where credit is due for research conducted.

Sean Chandler:

- “It’s a problem that there are professors that ‘collaborate’ but they publish the data [under their own names]... Actually, the community is the expert because it owns the knowledge... When it comes to research on our community, the community owns that information, and the community should benefit.”

Brian Grebliunas:

- “[It would help to] make sure the proposal that gets put in is led by the TCU. TCUs don’t want to be a subaward to help someone else get an award.”

## **B. What are the benefits of participating in the FFRP for TCUs?**

The FFRP pilot program helped ANC build research infrastructure and provide experiential learning opportunities for its students. Both of these are important aspects of capacity-building.

Building research infrastructure. Seed grants, such as provided by the FFRP, help to grow new research and provide funds to initiate the first steps in a larger, more long-term program. The FFRP played a role in initiating and continuing a research area that Dr. Grebliunas is building at ANC in the demonstration garden. He also indicated that it was beneficial to form collaborations, expand his professional networks, and earn money that he was not earning before.

Brian Grebliunas:

- “This grant fit in nicely because we are looking to do something larger. [It provided] preliminary or baseline data, and was a bridge between the larger project. We mentioned it in the larger USDA proposal.”

ANC has since secured a USDA grant that will build on this project. That grant will cover the construction of a quarter-acre wetland, install pipe to collect water, which will pipe into wetland and re-filter the water. The team will test nutrient levels in the water that is reused, and they will measure the return on investment for water and fertilizer.

Experiential learning for students. Many of the interview responses on benefits of the FFRP related to students. At ANC, one of the desires expressed by college leadership is to align their programs with the employment opportunities on the Fort Belknap reservation, so students do not have to leave the community to find jobs following their studies. These career areas include agriculture, natural resources, and healthcare. Internship and research assistantship opportunities were discussed as important experiences offering student careers readiness training and “soft” skills. To illustrate this, Manny Morales continually referred to the garden as an outdoor classroom, where he teaches agriculture, hard work, common sense, and ethics like respect. Many ANC faculty are dedicated to providing students with valuable experiential learning opportunities as a result of seeing the benefits first-hand. For example, Chelsea Morales, ANC instructor in Allied Health, changed her career plans after participating in undergraduate research and decided to complete a Master’s degree.

In his survey responses, student research assistant Joel Doney noted that the internship changed how he viewed his career by growing his interest in environmental science. Doney indicated that the experience helped to

prepare him for future jobs, prepare for earning a Bachelor's degree, learn skills that can be applied to other jobs, and improve how to communicate in the professional world. Additionally, on a Likert scale ranking of 1-5, Joel identified the following statements as 5 ("strongly agree"):

- I benefited from the experience of working on a research project with my supervisor.
- Compared to the beginning of the project, I now have a stronger sense of my career goals.
- Compared to the beginning of the project, my interest in incorporating science into my career has increased.
- Compared to the beginning of the project, my interest in incorporating research into my career has increased.

On a Likert scale ranking of 1-5, Joel identified the following statements as 4 ("agree"):

- Compared to the beginning of the project, my research skills have improved.
- Getting to know my supervisor, I learned valuable things.
- I valued the mentorship that my supervisor was able to offer.

Joel Doney:

- "Manny says pulling weeds builds character."
- "[The most important thing I gained from the internship was] working together, working as a team with the other interns who worked in the garden. Working hard under difficult conditions."

Sean Chandler:

- "Research gives our students the chance to get their feet wet, strengthening the students."

Brian Grebliunas:

- "For me personally I want to provide students opportunities to develop skill sets that make them marketable for a number of career paths."
- "We try to build research into coursework ... as much hands-on work as possible ... It's feasible at this sized school... Research benefits the college for the numbers; graduation rates go up 40%."

### C. To what extent does the FFRP build capacity for a sustainable research program?

Aspects of capacity-building covered in this section are professional development and capacity for further research. The FFRP offered constructive professional development opportunities and was a stepping stone to build a larger research project of interest to ANC.

Professional development for faculty. Grebliunas benefited from this program as a way to grow his research programs. It should be noted that TCU faculty have diverse professional development needs, and thus it should not be assumed that all TCU faculty begin the program with limited grant writing or research experience. On a Likert scale ranking of 1-5, Grebliunas identified the following statements as 4 ("agree"):

- This project provided professional development opportunities for me.
- I would recommend this program to my colleagues.

For faculty new to writing grants, Grebliunas also discussed how taking part in the grant writing process offers useful professional development opportunities:

- "[For grant writing training], another thing that would work would be to have people at [TCUs] that haven't written grants paired with a collaborator who can help write the grant. Then they are in the process of writing. It may be over a longer period. Start going through the steps of writing, with a long-term goal of submitting. Maybe supply stipends to be part of the grant writing process, to submit."

In his survey responses, Grebliunas indicated that the following professional development opportunities would be desirable for faculty at his institution: partnering on Tribally-led research, training on research techniques and research methods, opportunities to attend and present at more conferences, webinar-style trainings, and training to develop new curriculum / labs.

In our interviews with ANC leadership, professional development opportunities were emphasized as a high priority. The Interim Dean of Academics, Dr. Sean Chandler, underscored that the college encourages its instructors to pursue higher degrees while teaching and that faculty interested in doing research are able to get release from teaching when grant funds are brought in. Dan Kinsey, Masters-level faculty at ANC, explained that he has been involved in several research-based professional development opportunities that have advanced his skills in place of a PhD. The President of ANC, Dr. Carole Falcon-Chandler, has many aspirations for professional development of ANC faculty. She allows for flexibility in teaching commitments so faculty can attend conferences and do research. She encourages her faculty to pursue advanced degrees while continuing their teaching roles at ANC, as well as publish in the Tribal College Journal.

Capacity for further research. The FFRP model has the potential to support capacity for future research. ANC faculty partner Brian Grebliunas noted in his survey response that he became more professionally connected through this project and that the project helped to initiate or continue a research area that he would like to build at his college.

As mentioned above, the FFRP seed grant was mentioned in Grebliunas' successfully-funded USDA grant proposal. When commenting on this capacity, Grebliunas indicated in his survey responses that he has new collaborators with whom he could partner again, and the project has brought funds to the school that we did not have before. He commented that ANC has a supportive approach to faculty who want to obtain grants, and that is an incentive to stay with the college. . On a Likert scale ranking of 1-5, Grebliunas identified the following statement as 4 ("agree"): Compared to before the project, I am now more likely to conduct an independent research project.

Brian Grebliunas:

- "Research also keeps operations going. It keeps equipment updated, which we also use for classes."

Finally, it was suggested that other TCUs might have success building capacity for future research by integrating programs with larger, more sustainable programs such as INBRE and EPSCoR.

#### **D. What transferable lessons have been learned for the future of FFRP and other programs?**

On the topic of transferable lessons to other TCUs participating in the FFRP in the future, the following themes were discussed: cultural context of research partnerships with TCUs, characteristics of effective collaborators, and characteristics of effective mentors.

Cultural context of research partnerships with TCUs. Research partnerships cannot be considered outside of their cultural contexts. Culturally-relevant learning and research were emphasized as important by the Dean of Academics at ANC.

Sean Chandler:

- "Experiential learning needs to involve the culture, so the students have the sense of belonging, and it is hands-on."

- “Research at ANC emphasizes the importance of research in indigenous communities and partner institutions.”

For students, leaving the community to complete an internship or a degree can be difficult. Programs like the FFRP need to consider how to support students to gain research-based experiential learning from their home communities, and this is especially true for students who have family obligations.

Characteristics of an effective collaborator. In discussions about characteristics of an effective collaborator, the salient traits sought were respect and reciprocity. Interviewees underscored on numerous occasions that understanding of and respect for the TCU professional and community context is imperative. Also, TCU faculty and administrators want to collaborate with individuals who are willing to visit their campus and have contact with them.

Sean Chandler:

- “We [need to be] seen as equals. They need to truly believe in the mission of the college and the community’s needs. The core is indigenous lifeways.”

Chelsea Morales:

- “Characteristics of a collaborator who would work well with the community are availability, proximity, makes contact frequently, access to technology and equipment, someone who shows up (not just requests results and report).”

Brian Grebliunas:

- “The biggest thing is that people are responsive. Someone who has enough time. Someone of a like mind – in this case, we wanted to do a simple question, write up the data and get it done.”
- “It helps to select someone who can bounce ideas back and forth. Feedback. It doesn’t need to be a lot, but different sets of eyes.”
- “Meeting face to face is also really important.”

Characteristics of an effective mentor. Mentorship is a very important part of supporting student success at ANC. FFRP collaborators should be aware that students at TCUs need continued guidance support, and the collaborators should be willing to provide this support. Students want mentors to show them other opportunities and how to apply their new skills. When asked what he learned that surprised him the most, student researcher Joel Doney said, “That you could get anything done with motivation and the help.”

Brian Grebliunas

- “What’s the most important thing when it comes to mentorship at ANC? Really defining what needs to be done on a daily basis... Having a daily plan is huge. Communication needs to be very clear and explicit.”

## DISCUSSION

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The pilot of the Faculty-Faculty Research Partnership demonstrated the potential for this program’s success and growth in the future. The evaluation of the pilot shed light on the benefits that can be sought in future years, and changes that can be made to improve the program. The central question we aimed to answer in the evaluation is: Is the FFRP an effective partnership model to build capacity for research? For the purpose of this program, capacity-building for research includes the ability to offer professional development to faculty, to obtain funding,

to involve students in research, and to build research infrastructure. These four aspects are discussed in sections A-D below, and recommendations are made for the future of the program.

- A. Barriers to participation: Reducing barriers for future years.** The barriers mentioned by interviewees centered on time available for participating in programs such as the FFRP, and trust with partner institutions (non-TCUs).

Lack of time prevents TCU faculty from participating in this professional development opportunity. The recommendations below offer flexibility and creative ways to accommodate time-limited TCU faculty partners.

Recommendations to reduce time barriers to facilitate participation are:

- Work with TCU administration in advance of the program to support class time releases (buy-outs) and summer pay. This could be a role played by FALCON.
- Offer year-round options to TCU partners for conducting the research, so that the program can fit within time available (e.g., winter break, summer, or spring/fall semesters).
- If research or conference travel is needed for TCU faculty, arrange the travel dates around teaching schedules (i.e., do not expect TCU teaching faculty to be absent from prior teaching commitments).
- Align the research project with community or advising commitments that TCU faculty have, where relevant.
- For projects with multiple student interns, electing a more experienced student to help with project management can help relieve the TCU faculty member while providing beneficial leadership experience for the student.

With respect to building trust, the history of inappropriate approaches to research with and for Tribes cannot be resolved through a single program, but we can learn from these experiences to take steps to healthier, more equitable research partnerships for the future.

Recommendations to build trust to facilitate participation are:

- Once new partners have been selected, set up a time for a face-to-face visit with the TCU partners and administration to learn about goals for research, capacity-building, and funding.
- At the outset, co-develop research protocols or engage in discussions on protocols with TCU faculty partners and administration. Protocols should cover ownership of data, credit for research, and leadership on future proposals and publications.
- Seek opportunities for TCU leadership on writing, grant management, and future proposals.
- Offer opportunities for non-TCU partners to do cultural competency training.

- B. Leveraging benefits of the program in a transferable, scalable model.** The benefits described by interviewees and participants were building research infrastructure and experiential learning for students.

Building research infrastructure is one of the core aspects of capacity-building for TCUs. Research infrastructure is more than just facilities and equipment; it also encompasses human capital, institutional capacity, and diverse representation. The following recommendations are made with these dimensions of research infrastructure in mind.

Recommendations to build research infrastructure through the FFRP are:

- In early conversations with TCU administration, identify gaps or challenges in institutional capacity for research so that the partners can co-develop solutions, where possible.

- Early in the research partnership, determine if partners are interested in seeking larger grants. Use the FFRP seed grant to demonstrate viability of future projects for upcoming proposals.
- Seek and provide funding through the FFRP to TCU partners for research equipment, in addition to time coverage on the project.
- Seek and provide funding through the FFRP for TCU partners to attend one external professional development opportunity, such as a conference or training, as part of the FFRP.

Experiential learning takes place when students are involved in research, and the FFRP is a valuable experiential learning opportunity when aligned with career pathways available in the community and beyond. According to Gregory Cajete, “Experiential learning is the most basic and the most holistic type of human learning... This learning requires the simultaneous ‘internalization’ of concepts, methods, and classifications that are predominantly non-verbal and unconscious” (Cajete 1999: 55). Developing the FFRP with this view on learning will support students across the arcs of their career and life.

Recommendations to facilitate experiential learning opportunities for students are:

- Seek and provide funding to support student research assistants.
- Ensure that TCU mentors have sufficient funding to both mentoring and to complete research tasks.
- At the outset, discuss ways that non-TCU partners can support student research assistants on the project, where possible.
- Identify ways that students can summarize and share the results of their work, such as at a local conference, as part of a college event, or a local newspaper.
- If students live far from campus, offer options for students to complete part of the responsibilities off-site or with flexible hours to complete the work.

**C. Opportunities to continue building capacity for research.** As described above, capacity-building in this context refers to offering professional development to faculty, to obtain funding, to involve students in research, and to build research infrastructure. This evaluation demonstrated that the areas of most meaningful capacity-building provided by the FFRP at ANC served to offer professional development to faculty and supported capacity for further research at the partner TCU. Research infrastructure, the fourth aspect of capacity-building, was discussed in section B on benefits.

With respect to professional development to faculty, the FFRP can seek innovative solutions to offer professional development opportunities to build capacity for research. Recommendations are below.

Recommendations to support professional development opportunities are:

- Avoid assumptions about TCU faculty professional development needs. Not all TCU partners will be early-career and some will have experience writing grants and doing research. Have dialogue upfront in the process about professional development goals for all parties at the table, including partners from research institutions.
- Seek and provide funding through the FFRP for TCU partners to attend one external professional development opportunity, such as a conference or training, as part of the FFRP.
- Seek ways to connect partner faculty into new professional networks, e.g., through campus visits, conference/meeting attendance, future grant proposals, etc.
- If possible, inquire with TCU administration about its goals for professional development at the outset of the program.
- Create or connect to online professional development communities, such as webinar series.

- Following completion of the FFRP, provide incentives for collaborating on larger grant proposals (e.g., NIFA).

Building capacity for future research hinges on understanding TCU faculty and administrator goals for research to be conducted in the future. Some colleges may prioritize student learning opportunities in research, and others may view it as a way to address important questions in the community. Engaging in a dialog early in the partnership can help orient the project towards accomplishing future goals.

Recommendations to leverage the FFRP seed grant for future research:

- Discuss future research and funding goals at the beginning of the partnership. Strategize ways to use the seed grant to obtain future goals, including identifying upcoming funding proposals that can be completed in partnership.
- Consider past research projects from both partners that can be leveraged in future research, including equipment and other in-kind resources.

As stated above, programs like the FFRP need to consider how to support students to gain research-based experiential learning from their home communities, and this is especially true for students who have family obligations.

- D. Lessons learned for the future of FFRP.** Transferrable lessons from this pilot program to future FFRP projects and other programs dealt with special considerations for research partnerships with TCUs, characteristics of effective collaborators, and characteristics of effective mentors.

*The most important point to integrate into future years of the FFRP is that universities and research institutions have a lot to learn from TCUs, as regards culture, innovations in research methods, diversification of STEM, and ways to support Native students in their home universities.*

On the topic of cultural context of research partnerships, supporting culturally sensitive research methods and equitable research partnerships are not topics that can be sufficiently covered in a recommendation section of an evaluation report, however several principles can be used to underlie the future growth of this program, described below.

Recommendations to foster positive, equitable partnerships through the FFRP:

- Build in opportunities for non-TCU partners to learn about innovative approaches to research used in Tribal communities and by Tribal researchers.
- Base the program on opportunities for Tribally-led research wherever possible. Include experiential learning and build in space for other valuable approaches suggested by TCU partners.
- Create inquiry and experiential learning programs based on the 4 Rs: respect, relevance, reciprocity, and responsibility (Kirkness and Barnhardt 2001) at each step in the process.
- Select non-TCU partners with experience working with Tribes, or with curiosity about learning culturally-competent research methods and communication. Offer opportunities for non-TCU partners to participate in cultural competency training.
- At the outset, co-develop research protocols or engage in discussions on protocols with TCU faculty partners and administration. Protocols should cover ownership of data, credit for research, and leadership on future proposals and publications.
- Seek opportunities for TCU leadership on writing, grant management, and future proposals.

The following characteristics of effective collaborators should be borne in mind as non-TCU partners are selected. Reiterating from above, effective collaborators should be open to learning about TCU approaches to research and the cultural contexts of their TCU collaborators.

Recommendations to select effective collaborators:

- Seek collaborators with values of respect and reciprocity. One way to achieve this is to seek collaborators through existing networks and by asking for recommendations from TCU partners.
- Provide travel for collaborators to visit the TCU campus and community, ideally at least twice (once at the beginning and the end of the project).
- At the outset, co-develop research protocols or engage in discussions on protocols with TCU faculty partners and administration. Protocols should cover ownership of data, credit for research, and leadership on future proposals and publications (this is outlined in detail below).
- At the outset, discuss preferences for frequency of communication and channels for communication (email, phone, videoconference, etc.).

The FFRP is both a research and experiential learning program. Characteristics of effective mentors for students should be considered when selecting a collaborator. There are unique approaches to building educational programs that can support Tribal students in colleges and universities, and it is well-documented that creating community and mentorship programs support their success. These include involved and supportive mentors and family, institutional commitment, and staying connected with the community and ceremonies (Guillory and Wolverton 2008).

Recommendations to foster effective mentorship are:

- Seek and provide sufficient funding for both TCU and non-TCU partners to spend time mentoring student research assistants.
- Discuss mentorship expectations at the outset when the project is designed.
- Where relevant, utilize or develop tools that support project and time management for students, so they learn about project management from start to finish.

## RESEARCH PROTOCOL AND CONCLUSIONS

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The evaluation of the pilot program provided valuable feedback, lessons learned, and recommendations for the future of the program. Research partnerships developed through the FFRP should continue to remain cognizant of the 4 Rs: respect, relevance, reciprocity, and responsibility (Kirkness and Barnhardt 2001) as the basis for initiating and maintaining the partnership throughout the project.

**Research protocol.** The question of protocols warrants further discussion with TCUs and time to research protocols that have been developed already. At this point in time, it is envisioned that each new partnership would discuss a unique protocol specific that project, covering topics including research design and methods, ownership of data, timeline for research, credit for research, and leadership on future proposals and publications. Recommendations for next steps include setting up an advisory group of NWAL project personnel and TCU faculty to lay out a constructive approach.

**Conclusion.** While the most commonly considered output of research is *knowledge*, we recognize that research produces not only data: participating in research is a valuable *experience* that aligns with the educational and career development goals of faculty and students. Education is arguably the most lasting component of capacity-building. Both faculty and student participants of the FFRP expressed valuable learnings from the program that will continue support their career trajectories. This re-frame is a way for research to support communities, as the training and career development stays with the participants for their entire lives. While this is not a new concept, it is something that needs to be underscored through this program.

The FFRP presents an opportunity for both TCUs and non-TCUs to learn, grow, and build capacity. Notable areas of capacity building for TCUs were covered here, and in future evaluations additional attention will be given to the capacity and learning opportunities for universities and research institutions. Above all, the FFRP provides an opportunity for resilience-building through research capacity. Inquiry and experiential learning are an important pillar of resilience, enabling communities to gather and build knowledge to respond and adapt to challenges.

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