

# THE FEATHER AND THE PEN



*An Evaluation of the  
Tribal Youth Media Workshop*

## *Acknowledgements*



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Bad River Band of Lake Superior Chippewas

Tribal Youth Media Camp

## Background

**Ice Worlds: A Giant Screen Film and Outreach Project**, is a documentary media project that invites public audiences to explore their connections to the Mother Earth's changing climate and their own identities as changemakers. Centered on a large format film for IMAX and other giant screens, the project seeks to engage audiences in media experiences and storytelling initiatives, including a special program for Native American youth designed to create new climate stories. The project aims to emphasize the implications of climate change for Indigenous peoples and the ways that their knowledge and resilience can contribute to solutions. The Tribal Youth Media Workshop is one of multiple components the Ice Worlds media project, a collaboration of media producers and informal science educators, designed to engage millions of public viewers with polar science.



## Tribal Youth Media Workshop

The Ice Worlds project includes a group of seven Tribal youth producers (ages 12 to 15) from the Bad River Reservation. Guided by Northwestern Journalism Professor Dr. Patty Loew (Bad River Ojibwe) and supported by an instructor team consisting of Fawn YoungBear Tibbets, Don Stanley, and Kadin Mills (see Exhibit 1), student filmmakers participated in a three-week climate-focused Tribal Youth Media (TYM) workshop, during which they researched and developed documentaries about cultural climate issues—and solutions—on tribal lands in Bad River. The Bad River Tribal Council approved the project in summer 2021 and the workshop took place August 15 through September 1, 2022. During these three weeks, students researched and developed documentaries. By embedding

Anishinaabe culture and tradition into the workshop activities, students were supported in all aspects of the filmmaking process. The purpose of this external evaluation report is to describe the ways in which documentary filmmaking in a cultural context can serve as an effective mechanism for collective identity work and community engagement with Native youth—particularly with respect to STEM identity—thereby serving as an integral part of decolonization and positive development. Giant Screen Films engaged EvaluACT as the external evaluator; members of the evaluation team have decades of experience working with Tribal youth, including specific expertise in NSF's STEM initiatives.

## *Exhibit 1: The Tribal Youth Media Workshop Instructor Team*

<b>TYM Instructor</b>	<b>Title and Affiliation</b>
Dr. Patty Loew (Bad River Ojibwe)	Professor, Department of Journalism, Northwestern University
Ms. Fawn YoungBear Tibbets (White Earth Anishinaabe/Sac & Fox)	Media Specialist
Mr. Don Stanley (Oneida Descendant)	Faculty Associate, Department of Life Sciences Communication, University of Wisconsin-Madison
Mr. Kadin Mills (Keweenaw Bay Ojibwe Descendant)	Undergraduate Research Assistant, Department of Journalism, Northwestern University

The purpose of this evaluation was to examine the impact of the work within the context of the project's overarching learning goals by validating the program's learning impacts. Additionally, extrapolating findings of interest on the impact of informal science and media can be shared throughout Indian Country, particularly communities seeking to improve educational and STEM experiences for Native youth. The team used culturally appropriate methodologies to test whether the TYM impacted learning, attitudes, interests, and behaviors among the student filmmakers and facilitators. The workshop was facilitated in person, allowing for meaningful interactions between Tribal youth and Tribal leaders, culture bearers, university partners, and STEM professionals on the Reservation.

## *Methods*

This evaluation was framed using the Seven Grandfather Teachings of the Anishinaabe. Protocols and data collection instruments were designed to collect data by the external evaluation team and the TYM instructor team. In developing the framework for this evaluation, the evaluators consulted Tribal elders whose knowledge of Anishinaabe language and culture informed our definitions of terms, as well as how we examined the data. These elders emphasized the holistic nature of the Grandfather Teachings, explicitly reminding us that the teachings exist in a reciprocal state, supporting and reinforcing each other. Four data sources informed the evaluation goals and purposes. Data from all four activities contributed to the summary findings. These data were obtained from the following sources:







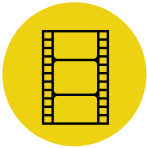
**Community Stakeholder Interviews.** TYM instructors identified key community stakeholders (including Indigenous natural scientists, educators, and other Tribal staff) who were interviewed to describe their experiences with the program and how youth are impacted. Interviews were conducted in-person and virtually. The interview protocol included questions about stakeholders' experiences with the workshop, as well as questions about the impact and value of the workshop. Each interview question was cross-walked with the Anishinaabeg Grandfather Teachings framework (see Appendix A for interview protocol).



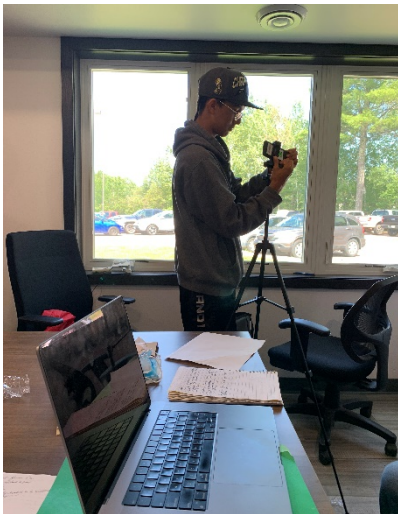
**Workshop Observations.** The external evaluation team observed activities during the first two days and last two days of the workshop. Onsite observations included conversations with students, facilitators, and key personnel. To supplement these observations, TYM instructors also kept detailed daily observation notes that were made available to the external evaluation team, post-workshop. Observation notes were captured in an observation log (see Appendix B).







**TYM Alumni Interviews.** TYM students interviewed and filmed TYM alumni at the annual Bad River Manoomin Pow Wow. Data from these interviews gestured toward alumni perceptions of the workshop's impact on their lives and careers.



**Final Student Projects.** The final student projects included four video documentaries that were screened for the public on the last day of the workshop. Data from these videos are evidence of the mastery of technical skills in cinematography, storytelling, and the impact of tradition on informal science on the Reservation. Each project was produced by a student team which included anywhere from two to seven students; most students worked on multiple project teams so that all students had an opportunity to engage in different parts of the production process. Exhibit 2 provides additional details about these projects.



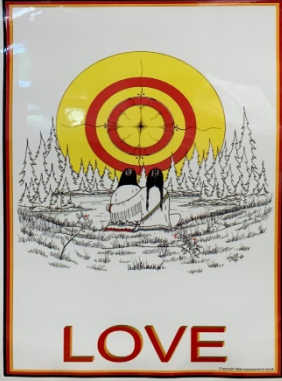

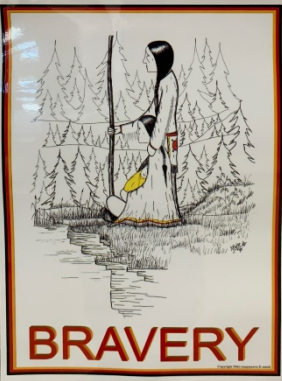
## Exhibit 2: Final Student Projects


Title	Brief Description	Student Team Composition
<p><b>Manoomin</b></p> 	<p>This video discussed the cultural significance of manoomin (wild rice), including traditional methods of harvesting and processing this important staple of the local diet</p>	<ul style="list-style-type: none"> <li>• All seven students participated in production</li> </ul>
<p><b>Black Ash Baskets</b></p> 	<p>This video described the ancient practice of Black Ash basket weaving and addressed the relevance of this practice in protecting the environment today</p>	<ul style="list-style-type: none"> <li>• Two students worked on videography</li> </ul>
<p><b>Solar Panels</b></p> 	<p>This video described the recent installation of solar panels on the Bad River Reservation and the importance of clean solar energy in protecting the environment</p>	<ul style="list-style-type: none"> <li>• One student worked on both videography and narration</li> <li>• Two students provided additional videography support</li> <li>• One student worked on audio/music composition</li> </ul>
<p><b>Ogaa</b></p> 	<p>This video examined the cultural significance of Ogaa (walleye fish) and current threats facing this relative as a result of mercury contamination in the local watersheds</p>	<ul style="list-style-type: none"> <li>• Two students worked on both videography and narration</li> <li>• One student worked on audio/music composition</li> </ul>

## Analysis

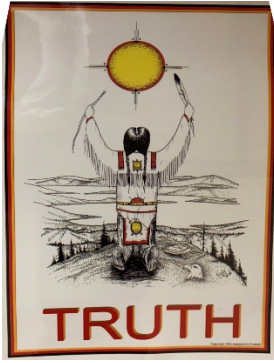
As noted above, we consulted Anishinaabe elders in defining each of the Grandfather Teachings in the context of this evaluation and developed a coding framework (Exhibit 3) for analysis. This coding framework is also informed by work by Bowman (2019).

*Exhibit 3: Grandfather Teaching Coding Framework*

Representation	Grandfather Teaching	What We Looked For
	<p><b>Zaagi'idiwin—Love:</b> To know peace is to know Love. Love is unconditional. When people are challenged (physically, emotionally, and financially), they become fearful of their situation. In these situations, we are reminded to love the people, the children, and the environment if we are to know peace.</p>	<ul style="list-style-type: none"> <li>➤ Actions or words that show tenderness, kindness, and being in good relation with all things</li> <li>➤ Evidence of the use of cultural knowledge and teachings reflecting love and kindness and peace</li> </ul>
	<p><b>Gwayakwaadiziwin—Honesty:</b> Honesty in facing a situation is to be courageous. Always be honest in word and action. Be honest first with yourself, and you will more easily be able to be honest with others.</p>	<ul style="list-style-type: none"> <li>➤ Actions or words that indicate students participated in a good way and with a good mind, giving and receiving gifts of time and knowledge in an appropriate and reciprocal way</li> <li>➤ Evidence of being truthful or sincere in words and actions</li> <li>➤ Evidence that students explored their own values (i.e., what did they really care about?)</li> </ul>
	<p><b>Aakode'ewin—Bravery:</b> Bravery is to face life with integrity. In the Anishinaabe language, this word literally means "state of having a fearless heart." Bravery encompasses doing what is right even when the consequences may be unpleasant.</p>	<ul style="list-style-type: none"> <li>➤ Actions and words reflecting courage, ethics, and strength in facing fears or shortcomings</li> <li>➤ Evidence that students defended what is right for the community and others</li> <li>➤ Evidence that students learned and grew from challenges/failures</li> </ul>

	<p><b>Minaadendamowin—</b>  <b>Respect:</b> To honor all creation is to have Respect. All of creation should be treated with respect. You must give respect if you wish to be respected.</p>	<ul style="list-style-type: none"> <li>➤ Actions and words suggesting that students are living a life of gratitude—one that respects all human and other-than-human relatives—and holding others and ourselves in consideration, appreciation, and honor</li> <li>➤ Evidence that students balance the needs of others and see value in others</li> </ul>
	<p><b>Dabaadendiziwin—Humility:</b>  Humility is to know yourself as a sacred part of Creation. In the Anishinaabe language, this word can also mean "compassion." You are equal to others, but you are not better.</p>	<ul style="list-style-type: none"> <li>➤ Actions and words indicating that students see themselves as one part of creation, where they are living in the spirit of deference and equality with all others</li> <li>➤ Evidence of cultural, professional, and academic humility</li> <li>➤ Evidence that students acknowledge that they do not know everything; that we continue to learn</li> </ul>
	<p><b>Nibwaakaawin – Wisdom:</b> To cherish knowledge is to know Wisdom. Wisdom is given by the Creator to be used for the good of the people.</p>	<ul style="list-style-type: none"> <li>➤ Actions and words where students applied discernment for the betterment of life/community/society/Mother earth</li> <li>➤ Evidence that students used the teachings and <u>applied them</u> to any contemporary context, issue, or topic to find clarity, create innovations for positive changes, and support sustainable transformation</li> <li>➤ Evidence of creativity, taking chances, and generating insights</li> </ul>





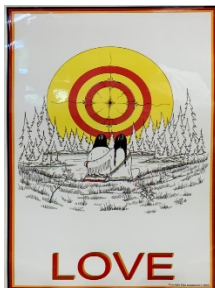
**Debwewin—Truth:** Truth is to know all of these things. Speak the truth. Do not deceive yourself or others.

- Actions and words that signal students relate Truth to the spiritual manifestation of centuries' old knowledge and understandings
- Evidence of students trusting the teachings, teachers, values, and ethics when making decisions
- Evidence of seventh-generation thinking

## Results

The Grandfather Teachings reveal a holistic understanding of our self, our environment, and our spirituality. The teachings build on each other and incorporate values that transcend the typical domains embodied in non-Indigenous coding schemes. Our representation of these teachings in this project exemplifies our understanding of the evidence located in this project. Below, we provide summaries of each of the Grandfather Teachings with the caveat that the findings associated with each Grandfather Teaching should not be interpreted in isolation of others. There is a symbiosis within and among the findings identified under each Grandfather Teaching.

## Zaagi'idiwin



**The workshop instills a sense of environmental stewardship in youth.**

Community stakeholders commented on the ways in which youth, through the video production process, embrace a sense of caring for and

responsibility to the natural environment. One community stakeholder observed, “By recording the ancient places where we harvested—places where students may not even recognize that that gathering

happened in the past—after they have that knowledge, they will be more apt to want to take care of that area. And speak up for it.” Another stakeholder noted that students gain an appreciation for the importance of the interconnection between hydrology, landscapes, and food systems, and how this integrated system is fragile and vulnerable to resource extraction, climate change, and other environmental threats facing Bad River. Students' final projects embodied this appreciation and love for the environment. For example, one production team produced a news segment on manoomin, a culturally significant natural resource to the Bad River community. This video is a compelling example of science steeped in Anishinaabeg worldviews, which was made clear by the extraordinary care the production team took in portraying and describing the importance of manoomin. Interviews with Anishinaabe ricers and natural scientists centered messages of love and proper caring for this natural resource, positioning manoomin as “our relative” and something that “if we take good care of, it will take care of us.”

**Students build good relationships with each other and with TYM instructors.** Though most students knew each other prior to the workshop, it was clear that they ran in different social circles. Though there were episodes of teenage angst throughout the three-week workshop, students were able to move past this and embrace teamwork and a cooperative attitude in working on their

final projects. Instructors noticed that students often used humor to express kindness as well as work through emotional challenges and insecurity. Students often engaged in playful teasing, joking, and bantering with each other and with instructors throughout the workshop. By the conclusion of the workshop, it was clear that students built a camaraderie with each other. During the community screening of students' projects, the entire TYM cohort was seated at one table, offering support and encouragement to one another as each team's video was shown.

**Students build authentic and long-lasting connections with their community.** Through the video production process, students meet and speak with elders, Tribal leaders, Indigenous scientists, and other Bad River community members. TYM alumni shared that these connections are not short-lived.



### TYM Alumni Quote

"[The workshop] helped me stay connected with my community. I'm off the Reservation so being able to get involved with community again, it was really nice and definitely something I never want to give up."

## Gwayakwaadiziwin



**Students use the gifts of the TYM workshop in authentic and meaningful ways.** TYM alumni shared how the workshop helped them realize their own purpose and pathway in life. For example, one alumnus shared that while

he originally went to college to study animation, he ultimately returned to his true passion in music composition. He attributed this shift to his participation in the TYM workshop, stating that "the roots really go back to the [TYM] camp."

Students used honesty in the portrayal of their projects; for example, ricing is



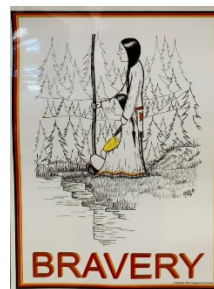
### TYM Alumni Quote

"My confidence has grown thanks to those initial experiences and experiences that came after."

portrayed by incorporating the stories of elders about the purposes and processes of ricing.

**Final student productions center local truth-telling.** As noted previously, TYM student participants are free to explore issues of personal interest to them and reflect upon the ways in which environmental and climate issues at Bad River affect them as Tribal members. In doing so, youth employed practices of reflexivity to describe issues that they truly cared about. What emerged from this process was a set of stories that unveiled previously untold and unrecognized parts of local Bad River history. Each production team's final video demonstrated the power of local truth-telling in making clear the impacts of climate change in the community. For example, one production team expressed a specific desire to confront mercury contamination and bioaccumulation and its impact on Ogaa (walleye) in the local watersheds and the ripple effects on local diet, health, and culture.

## Aakode'ewin



**Students step outside their comfort zones and engage in cultural dialogues with TYM instructors and community leaders.**

Community stakeholders shared that many of the youth who participate in the TYM workshop are usually somewhat

disconnected from many of the community cultural teachings when they begin the workshop. Further, community stakeholders observed that youth are generally apprehensive and nervous about approaching adults and elders with questions related to culture. This changed during the TYM workshop, with students demonstrating an increased willingness to be more vulnerable to engaging in these types of conversations. This was evident when students completed their first interviews for their documentary projects; one student expressed a lot of pride in facilitating an interview with the Tribal Chairman on the topic of manoomin.

**Students embrace learning new skills.** All youth had minimal to no previous exposure to the technical skills taught in the TYM workshop, including photography, videography, music composition, and field production. The fast pace at which these topics were taught was visibly overwhelming for many of the youth initially; however, TYM instructors observed students repeatedly engaging in trial-and-error learning in effort to master the technology. Instructors observed some students finding their own gifts for certain skills. For example, one student demonstrated a particular fondness for music composition using AcidPro, whereas another student found her niche in videography. In addition to technical skills, students were also exposed to new cultural skills and teachings while touring the wild rice sloughs. One community stakeholder noted that because of the gradual migration of Bad River families away from the sloughs, many of today's youth do not know how to paddle a canoe and are fearful of the water. Students confronted this fear head-on in the TYM workshop. During the second week of the workshop, students toured the Kakagon Sloughs to learn about how climate change is impacting the rice and what Bad River is doing to try to protect it. For some students, this was the first time they were on the water.

**Students hold each other responsible for behaviors and actions.** This year's TYM

workshop cohort included students who had experienced a great deal of family trauma. As such, it was not surprising that there were several occasions where students "acted out" when experiencing frustration and/or insecurity. As the workshop progressed, students began holding each other accountable to an unwritten code of conduct that recognized and centered respect (for each other, for instructors, and for the community). Instructors observed several instances of this over the three-week period. For example, one instructor observed a group of students admonishing the disrespectful behavior of another student who became indignant after struggling with a workshop activity. During week 3 of the workshop, some students took the initiative to approach instructors to discuss and apologize for incidents of disrespectful behavior during the workshop.

### *Minaadendamowin*



**Students learn to appreciate the gifts and strengths of others.** Closely tied to the Grandfather Teaching of humility, students learned and embrace principles of teamwork as they worked together on production

teams. As noted previously, video production braids together several important skillsets, including research rooted in storytelling, visual photography, music composition, speaking/presenting, and editing. Students learn quickly that no one person can master all these skillsets in the time available and that each student contributes something unique and beneficial to the process. As one stakeholder put it, "it's all about cooperation and figuring out each other's strengths and work together to make it happen instead of *I want to do it all.*"

**Instructors hold space and consideration for youth's traumatic experiences.** This year's TYM cohort came into the workshop

carrying a great deal of familial trauma and loss, including sibling suicide, deaths in the family due to accidents, family deaths due to Covid-19, and the passing of a grandfather to four TYM cohort members during the workshop. Additionally, some of the students' traumatic backgrounds also stemmed from mistreatment in school and a feelings of abandonment by their educators; one community partner observed that this cohort of students were "no strangers to the vice-principal's office." One workshop facilitator stated, "Our program has to remove the 'school' from learning. Being in community with kids is imperative." TYM instructors encountered several disruptive occurrences throughout the course of the workshop. Disrespectful words and actions, particularly in the first two weeks of the workshop, made instructors feel they were being "tested" by youth on an almost daily basis. However, in the same way that self-reflection and reflexivity are core teachings for the youth in this workshop, instructors also realized the power of these tools in facilitating the workshop.

### TYM Instructor Quote

"The kids rarely have a space to be safe and honest. Ensuring this workshop is safe sometimes meaning opening ourselves up to disrespect."

Instructors saw a marked shift with this dynamic by week 3 of the workshop, observing that students, overall, had become more considerate of the TYM instructors and of each other. The clearest evidence of respect was observed in the final screening of videos. Students proudly introduced their families to team instructors. This obvious change in student attitude is evidence of respect they attribute to their facilitators. Additionally, students cheered each other on during the community screening, signaling the respect and solidarity built within the cohort.

## Dabaadendiziwin



**Students better understand their relationship to the natural world.** Connection to land, nature, and environment is at the heart of Indigenous knowledge systems, philosophies, and

cosmologies. Seeing oneself as not *distinct from* but rather *interconnected and in kinship with* the land is a key teaching of the TYM workshop, according to community stakeholders. For instance, one stakeholder stated,

### TYM Community Stakeholder Quote

"In our teachings, we're told humans came last. First of all, the water and the rocks, and then the plants and then animals and then finally, humans. And the world could go on without humans here. Everything would go on, and probably much better than if we weren't here. And for [youth] to have that shift in mindset—that we're the lowly people here and these other beings are more important than we are—I think that's a super, super awesome teaching for kids."

Another community stakeholder remarked that the TYM workshop helps Tribal youth better understand the Indigenous perspective on climate and environment by juxtaposing the western worldview of *conquering and controlling* the environment with the Indigenous worldview of *being part of and in deference to* the environment. Students' final video projects demonstrated this level of cultural and academic humility. Students had to incorporate multiple



perspectives of science that allowed them to rethink traditional textbook (i.e., western) science through a lens that also privileged traditional Anishinaabe ways of knowing about the environment. Their respectful questions, nuanced cinematography, and thoughtful attention to detail is evidence of their humility.

**Students recognize when they need help and support.** As noted previously, students demonstrated reluctance and hesitation in asking for assistance when they needed support. During the first week of the workshop, instructors observed several students “shutting down” when experiencing obstacles and challenges with the technological tools.

Some students expressed frustration and insecurity to the point of becoming unintentionally hostile with the instructor team. By week 3, instructors noted a marked shift in students’ comfort level in admitting that they needed help or that they didn’t know something. Instructors also observed a greater level of teamwork between students in working together to solve problems and challenges.

### *Nibwaakaawin*



**Students center Indigenous knowledge systems in the development of their final projects.** Facilitators noted a significant change in behaviors when students chose to engage the facilitators on

issues of their previous behaviors. Days into the workshop, students began to process the consequences of actions and took positive steps to talk with the facilitators and to change their behaviors. In multiple instances, students told other students to “check your attitude” indicating that they had grown in managing not only their own behaviors, but also that they felt it necessary to teach others. Reciprocal teaching is

evidence that students are making wise judgments.

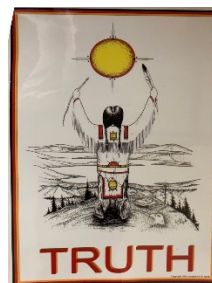
Students’ final video projects reflected not only weeks of observation, instrumentation, and other Western tools of scientific inquiry, but also stories, symbols, and other representations of Ojibwe cosmologies and worldviews.

### **TYM Community Stakeholder Quote**



“A lot of indigenous knowledge hasn’t always been respected, or we haven’t been given the credit that we should have throughout history as far as like our knowledge of science. And I really think that this [workshop] helps to make that more clear and acknowledge that knowledge.”

### *Debwewin*



**Students engage in scientific discourse, create a scientific narrative, and assert a cultural identity that was congruent with Ojibwe worldviews and truths.**

One of the objectives of the TYM workshop is to ease the identity strain of Western science settings by placing students in an all-Ojibwe learning environment (Tynan & Loew, 2010). Through this unique blend of pedagogy, epistemology, and methodology, students created final video projects rooted in the natural and cultural landscape of the Bad River community. Students braided science, language, culture, and community together

in ways that elevated the strengths of the Bad River community and its people.

### TYM Community Stakeholder Quote



"After the finished product where they see it professionally done, and that they put it together themselves, their self-esteem is improved, their self-worth is improved, and their identity is strengthened."

**Students incorporate seven-generations thinking and perspectives into their final projects.** Students' final video projects embodied a seventh-generation principle by urging viewers of today to mobilize and address current climate-related crises in Bad River for the betterment of future generations of Ojibwe people. For example, the Black Ash basketmaking video centered the importance of basketmaking and how this ancient cultural practice represents caring for the environment today and for future generations of Bad River people. Likewise, the manoomin (wild rice) video communicated the importance of protecting this natural resource to sustain future generations.

Students engaged in dialogues by laying tobacco, smudging, and praying; the focus

of one conversation centered on "we are all spiritual beings," reflecting the more substantive evidence of an understanding of truth. By providing opportunities for students to connect with cultural practices, the facilitators were able to support the students as they learned more about truth.

### TYM Community Stakeholder Quote



"I think what [youth] need to learn is essentially that we as Anishinaabe, that we as Ojibwe people, have a seventh-generation vision, and that we're always thinking about our temporary time on this planet, and what it's going to take to leave a good place through real time decision making, what it's going to take to leave this place intact, and in a really good way for all of those generations that are yet to come. And so that seventh-generation ethic or vision is really important to try to convey with that comes responsibility. With that seventh-generation vision comes responsibility to choose with the future in mind, to protect and preserve as a way of living."

## Recommendations

Though the Tribal Youth Media workshop has been in operation for almost 15 years, this is the first year that a formal external evaluation of the program has been conducted. The results of this evaluation indicate that this approach to student filmmaking does serve as an effective mechanism for collective identity work and community engagement with Native youth at Bad River. The results of this evaluation also underscore the potential for this model as a resilience-building opportunity for Tribal youth. The daily workshop observation notes show a clear progression of positively reinforced behaviors, and the actualization of those behaviors by

student participants. The three-week timeframe allowed students to begin to trust themselves, the facilitators, and the other students. Evidence of the Grandfather Teachings became more pronounced as the workshop progressed; students connected more with their heritage as they explored not only the traditions of their people but the contemporary issues facing the Tribe. Our analysis informed a set of actionable recommendations for future TYM cohorts, which are described below.

### Words from the Tribal Chairman



"They're in a cohort group that is celebrating that blend of what we always called the feather and the pen-- that TK traditional ecological knowledge and the science side of things. So, that's a great environment to be in."

-Tribal Chairman Mike Wiggins

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**Design and center the workshop around the Seven Grandfather Teachings.** The Anishinaabe Grandfather Teachings served as a powerful framework for evaluating the TYM workshop. The decision to center the Grandfather Teachings in the evaluation was a result of the lead instructor's desire to understand how cultural values are communicated through the workshop. The results showed that the TYM workshop achieved powerful outcomes that were reflective of all the Grandfather Teachings. We recommend that future delivery of the TYM workshop make clear the relationship and connection between course activities and the Grandfather Teachings. This may include designing a formal TYM curriculum, as well as building more intentional spaces for discussion about the Grandfather Teachings during the workshop.



**Set community agreements during the first day of the workshop.** Midway through the workshop, instructors found it necessary to engage students in a meaningful conversation about the Grandfather Teachings following a particularly trying fieldwork experience the previous day involving several instances of disrespectful behavior. Pursuant to the first recommendation, we recommend engaging students in this Grandfather Teachings dialogue on Day One of the workshop to set expectations and allow students the opportunity to co-create workshop community agreements that instructors, students, and guests agree to adhere to throughout the workshop.



**Build a replicable curriculum design.** The TYM Workshop has decades of positive impact at Bad River and has been replicated by Dr. Loew in other states. The curriculum's unique Native STEM emphasis has been continuously refined; scholarship and publications have broadened the awareness of the program. The next step in ensuring that this work is available to other Tribal nations is the creation of an adaptable curriculum. By creating a replicable template, other Tribal nations and educators who support Tribal youth would be able to create these same opportunities for American Indian/Alaska Native students across Indian Country. Curriculum design requires a broad understanding of state STEM standards with emphasis on informal science. Facilitators are not trained science teachers; however, the resources developed in this project serve to support the standardization of the workshop teachings. An instructional design would include the development of a curriculum map and a facilitator's guide that includes all lessons and learning objectives for each day's activities (including assignments, templates, agendas, and examples). These artifacts could be refined by incorporating specific Tribal content as the workshop is replicated. By building a replicable curriculum design, the TYM Workshop can inform similar informal science programs across Indian Country.



**Extend the workshop timeline to accommodate shorter days.** Currently, the TYM workshop is designed as a three-week workshop that occurs daily Monday through Friday for six-hour blocks (this year, the workshop ran from 9am to 3pm). On certain days, particularly on instruction-heavy days, students showed visible signs of fatigue. It is possible that fatigue contributed to some moments of student angst and frustration over the three-week period. We recommend that the workshop be designed as a four-week course to include some shorter days to break up the intensity of workshop pacing. The curriculum would be designed around major topics and would allow for flexible scheduling in other Tribal communities.



**Secure financial resources to continue evaluating the workshop.** As noted earlier, this is the first year the TYM has been systematically evaluated. However, the TYM team has always recognized the value in evaluation as a way of learning to improve the program. We recommend that as part of future fundraising efforts, the TYM team prioritizes locating funding opportunities that provide financial resources for evaluation so that evaluative insights around process, outcomes, and impacts can continue to be collected and documented. Developing the evidence base of TYM is imperative to positioning this unique cultural model as an evidence-based STEM education practice.

## References

Bowman, N.R. (2019). *Indigenous Evaluation: Monumental, Transcendental, and Consequential*. Keynote address delivered at the annual conference of the Hawai'i-Pacific Evaluation Association, Kāne'ohe, HI, USA.

Tynan, T., & Loew, P. (2010). Organic video approach: Using new media to engage Native youth in science. *American Indian Culture and Research Journal*, 34(4), 31-40.



## *Appendix A: Community Stakeholder Interview Protocol*

### **Starter Questions**

1. What has been your experience with the Tribal Youth Media workshop? How did you get connected with this workshop initially? What's been the extent of your involvement with it?

**Zaagi'idiwin—Love: To know peace is to know Love. Love must be unconditional. When people are challenged emotionally and financially they become fearful of their situation. Anishinaabeg is reminded to love the people; the children; and the environment.**

1. How does this workshop impact youth understanding of the connectedness found throughout nature?
2. How do you see Tribal Youth demonstrate caring for nature?
3. Describe the alliances or bonds you have seen or expect to see that are formed among participants.
4. What, if any cultural practices, do you expect Tribal youth to learn in these sessions? (for example, how to introduce themselves, how to offer tobacco, the use of prayer before beginning)?

**Gwayakwaadiziwin—Honesty: Honesty in facing a situation is to be brave. Always be honest in word and action. Be honest first with yourself, and you will more easily be able to be honest with others.**

5. How can Tribal Youth use the gifts offered through this workshop appropriately and in a good way?
6. How do you show up in a good way and with a good mind to this workshop?

**Aakode'ewin—Bravery: Bravery is to face the foe with integrity. In the Anishinaabe language, this word literally means "state of having a fearless heart." To do what is right even when the consequences are unpleasant.**

7. What do you youth need to learn (or unlearn) to be successful in this workshop?
8. What challenges or fears do youth face head-on in this workshop?

**Minaadendamowin—Respect: To honor all creation is to have Respect. All of creation should be treated with respect. You must give respect if you wish to be respected.**

9. How do you see Tribal Youth demonstrate respect for their peers in this workshop?
10. How do you see Tribal Youth to demonstrate respect for their teachers in this workshop?

**Dabaadendiziwin—Humility: Humility is to know yourself as a sacred part of Creation. In the Anishinaabe language, this word can also mean “compassion.” You are equal to others, but you are not better.”**

11. How have you seen youth grow in their workshop experience in terms of:
  - a) Being able to evaluate their own strengths and gifts
  - b) Ability to accept mistakes and limitations
  - c) Being open to new ideas
  - d) Knowing their place in the community/natural world
12. What can the Tribal Youth Media workshop offer to Indigenous youth that they cannot get in school?

**Nibwaakaawin – Wisdom: To cherish knowledge is to know Wisdom. Wisdom is given by the Creator to be used for the good of the people.**

13. What is the connection between storytelling and science?
14. Why is it important for Indigenous youth to get involved in science?
15. How will the science component of this work impact the participants?

**Debwewin—Truth: Truth is to know all of these things. Speak the truth. Do not deceive yourself or others.**

16. What knowledge do you want to share with young people about the natural world? Probe for:
  - a. Manoomin (wild rice)
  - b. Food sovereignty
  - c. Alternative energy
  - d. Invasive species
  - e. Climate change/climate justice

17. How important is it that Tribal Youth spend time reflecting on their contributions to this project?
  
18. How can the Bad River community be made a better place through the participation of rising 9<sup>th</sup> graders in the Tribal Youth Media workshop?

## *Appendix B: Workshop Observation Log*

The purpose of this observation log is to preserve key learning moments that emerge throughout the course of the Tribal Youth Media Workshop. In particular, we are interested in capturing:

- Lessons/activities that youth are most engaged with/interested in
- Observations that youth are making as they are learning in nature
- Questions/curiosities that youth raise (during story planning, production, field activities, etc.)
- Notable statements made by youth
- Ah-ha/breakthrough moments

Workshop facilitators should take note of key observations using the template below. To the extent possible, we would like to align key observations with the 7 Grandfather Teachings to understand how Anishinaabe values and principles are learned and embraced by youth participants during the workshop.

- **Nibwaakaawin – Wisdom:** To cherish knowledge is to know Wisdom. Wisdom is given by the Creator to be used for the good of the people.
- **Zaagi'idiwin—Love:** To know peace is to know Love. Love must be unconditional. When people are challenged emotionally and financially, they become fearful of their situation. Anishinaabeg is reminded to love the people; the children; and the environment.
- **Minaadendamowin—Respect:** To honor all creation is to have Respect. All of creation should be treated with respect. You must give respect if you wish to be respected.
- **Aakode'ewin—Bravery:** Bravery is to face the foe with integrity. In the Anishinaabe language, this word literally means “state of having a fearless heart.” To do what is right even when the consequences are unpleasant.
- **Gwayakwaadiziwin—Honesty:** Honesty in facing a situation is to be brave. Always be honest in word and action. Be honest first with yourself, and you will more easily be able to be honest with others.
- **Dabaadendiziwin—Humility:** Humility is to know yourself as a sacred part of Creation. In the Anishinaabe language, this word can also mean “compassion.” You are equal to others, but you are not better.
- **Debwewin—Truth:** Truth is to know all of these things. Speak the truth. Do not deceive yourself or others.





<u>Observation #3</u>						
<b>Grandfather Teaching(s):</b>						
<b>Date:</b>	<b>Observer(s):</b>	<b>Non-Ed</b>	<b>R</b>	<b>L</b>	<b>DI</b>	<b>DP</b>
<u>Observation #1</u>						
<b>Grandfather Teaching(s):</b>						

