



# Sacred Relatives

## *Learning About Interconnectedness Within the Local Watershed*

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### **Abstract**

This article describes an online module developed and offered as part of a professional development program for elementary teachers in grades 3 - 5 from rural and Tribal schools in North Dakota. This module, Sacred Relatives, one of the North Dakota Native American Essential Understandings, focuses on the interconnectedness of all living and nonliving elements in our natural world. In the module, teachers engage as learners in place-based, outdoor activities and learn how to integrate the understanding of Sacred Relatives into their own classroom instruction and grade-level curriculum, with a focus on the local Red River watershed.

### **Keywords**

watersheds, place-based education, Indigenous Science, professional development, online learning

## Overview

STEM education is often presented as disconnected from community, culture, or place, excluding many students from seeing its relevance (AISES Literature Review, 2020; Luecke, 2025; Cajete, 2020). The Next Generation Science Standards (NGSS) highlight place-based science as culturally relevant by connecting learning meaningfully to students' experiences and awareness of local phenomena (NGSS Lead States, 2013). Yet teachers rarely receive professional development (PD) in culturally relevant, place-based STEM (Bowman et al., 2024). To address this gap, we developed a two-year PD model, Project CuRRENT (Culturally Relevant River Education for Nature-based Teaching) engaging elementary teachers from rural and Tribal schools in North Dakota (ND) in integrated, place-based, and culturally relevant STEM focused on the Red River Watershed. We situated PD activities within the North Dakota Native American Essential Understandings (NDNAEU, ND DPI, 2015), a framework developed collaboratively by ND Tribal Elders for integrating Indigenous pedagogies for all learners. Infusing storytelling throughout, we began with teachers sharing water stories and listening to a read-aloud of *We Are Water Protectors* by Carole Lindstrom, enrolled member of the Turtle Mountain Band of Ojibwe.

Our PD was offered to teachers in school districts around the Red River Watershed, where the Red River flows northward through ND and Minnesota, into Manitoba, Canada, emptying into Lake Winnipeg. This PD included two in-person summer workshops and seven asynchronous online modules for teachers to complete during the academic year, one for each NDNAEU. Modules were released monthly (October through April), to be completed on teachers' own time. While these teachers were all located within the same watershed region, in future iterations of the PD, the online format would allow teachers in different watersheds to compare the geography, ecology, and historical/cultural contexts of their regions, deepening their understandings.

This article describes our first module, focusing on the NDNAEU of Sacred Relatives, which describes how we relate to everything: the interconnectedness Indigenous people practice with all living and nonliving elements within the world and their stewardship of the land and its human and other-than-human inhabitants. We focused on watersheds because of the interconnected relationships and relevant illustration of Sacred Relatives they promote. Watersheds are intertwined with social and ecological community histories, providing many ways to connect people and place. By investigating watersheds, teachers and students can experience hands-on learning that is culturally and ecologically restorative, aligning with Sacred Relatives.

## **Narrative Framing**

We developed each online module to follow a consistent flow that teachers could complete independently in about four hours. Modules included three stages: learning about a specific NDNAEU, connecting it to oneself, and integrating it into classroom instruction. Components included reflection activities, Dakota and Ojibwe language, outdoor engagement, videos of Elder interviews, collaborative discussion boards, art activities, and lesson resources for teachers to apply their learning to their classrooms. This sequence allowed teachers to experience the content as learners, reflect on their relationship with place and watersheds, consider how each NDNAEU could guide lesson design and pedagogy, and embed module components into instruction.

## **Introduction to Sacred Relatives**

Sacred Relatives, our introductory module, began with a video on the Lakota Virtue of Wowahwala (gentleness and peace) in which Lakota Elders describe the cultural and relational meaning of this virtue. We used the video to help teachers center themselves, reflect on their connection to their surroundings, and be present in the moment.

Next, teachers explored Sacred Relatives through a reading from the guiding framework (below) and by watching an interview with Gladys Hawk, Dakota Elder from Standing Rock Nation, entitled "[Reciprocity with the Land](#)", allowing teachers to learn about this NDNAEU from an Elder's voice. To accompany the Elder interviews, teachers were provided an Elder Wisdom Journal, which included links to various videos, discussion prompts, and guiding questions to deepen teachers' reflection of the Elders' stories.

## **Connecting to Sacred Relatives**

After exploring Sacred Relatives, teachers engaged in nature-based activities to connect directly to the concept. These activities included sit spots and observation labs (see module below), where teachers selected an outdoor location to revisit regularly. Over time, they observed environmental changes, cultivated curiosity, and deepened their connection with the natural world and its kin. Teachers received readings, instructions, and reflective prompts to guide their observation lab. They also received resources about Dakota and Ojibwe uses of native plants and a plant identification app, enabling them to identify these plants in their local environments. Through this process, teachers explored their own interconnectedness with the natural world, aligning with Sacred Relatives.

## Integrating Sacred Relatives into the Classroom

Finally, teachers applied their learning about Sacred Relatives to classroom practice and curriculum. Using lesson resources developed for the [Teaching of Our Elders](#) project and aligned with Sacred Relatives and science concepts, teachers explored ways to incorporate students' connection to place meaningfully into classroom instruction. By reviewing sample lesson materials and standards and enhancing their own culturally relevant curriculum and instruction, teachers applied prior module learning into practice. To culminate, teachers listened to the Anishinaabe Nibi Water Song, allowing them to recenter, reflect on their learning, and honor water as a Sacred Relative.

While completing the seven modules asynchronously, teachers periodically gathered over Zoom to share their experiences as learners engaging with the NDNAEUs and as educators discussing impacts of the NDNAEUs on their teaching and student outcomes. Consistently, teachers reported the joy and engagement they noted in their students when they aligned practice to Indigenous pedagogies, such as storytelling, as they had experienced while reading *We Are Water Protectors* and sharing their water stories. Teachers also described a growing relationship with place, more mindfulness toward their environment, and an increased sense of reciprocity with the natural world.

### At a Glance

<b>Title</b>	The North Dakota Native American Essential Understanding: Sacred Relatives
<b>Unit Time</b>	approx. 4 hours
<b>Grade Level(s)</b>	3-5
<b>Core Text</b>	<i>We Are Water Protectors</i> by Carole Lindstrom
<b>Climate Literacy Terms</b>	watershed, place-based education, interconnectedness
<b>Objectives</b>	To explore how the Essential Understanding of Sacred Relatives can shape learning around watersheds, ecology, and our relationship with our place.  To explain how observation labs and sit spots can help students engage with place and grade-level science

	<p>concepts.</p> <p>To identify grade-level standards and learning experiences that are aligned with Sacred Relatives.</p>
<b>Materials and Resources</b>	<p><a href="#">Project CuRRENT Sacred Relatives Module</a>  <a href="#">North Dakota Native American Essential Understandings: Teachings of Our Elders</a></p>

**Going Forward**

Our Sacred Relatives module and full PD provided teachers with connection to their watershed, sense of place, and ways to integrate NDNAEUs into teaching and curriculum. The transformative impact on teachers’ identities, instruction, and on students suggests that this place-based, Indigenized approach benefits the entire learning community. We plan to share these materials broadly and are working with local Tribal Elders, teachers, and community members to refine all modules for open access. We highlight the importance of working collaboratively and reciprocally with Tribal partners to co-develop materials and then return them to the community. We also suggest impactful practices for STEM PD, including explicit place-based, cultural connections to ground educator’s learning. Such opportunities should provide teachers with outdoor experiences, collaborative learning with community members, an introduction to local Indigenous Understandings and learning standards, and the chance to enhance curriculum and embed such pedagogical shifts. Providing scaffolded, practical opportunities for educators to experience place-based education, develop their relationship with their environment, and unpack key curriculum design qualities, is a transformative approach that can inform methods for pre- and in-service teacher learning, ultimately offering authentic and engaging learning for students.

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