Centering First Nations Identity and Voice Through Data and Story: A Culturally Grounded AI Exploration

PROBLEM OF PRACTICE

First Nations communities in Manitoba have a long history of resilience, knowledge, and culture deeply rooted in land, language, and tradition. Yet the lasting impact of residential schools and the transition from First Nations-run schools (K–8 or K–10) to provincial high schools has often disrupted students' sense of identity and belonging.

While provincial curricula aim to serve all students, they frequently overlook the specific heritage, traditions, and languages of First Nations peoples. This leads to a loss of cultural connection at a pivotal stage in students' educational journeys—just as they begin preparing for broader academic and personal transitions.

As part of the ongoing work of Truth and Reconciliation, there is an urgent need to ensure that education does not erode identity, but rather sustains and strengthens it.

The key question guiding this initiative is:

What supports and programs can be implemented to sustain identity development and strengthen connections to First Nations communities as students transition to provincial schooling?

This use case explores how AI and data science can be leveraged not as tools of external control, but as instruments of cultural continuity, community voice, and student agency. It asks how emerging technologies—when grounded in First Nations priorities—can support students in carrying their identities forward with clarity and confidence.
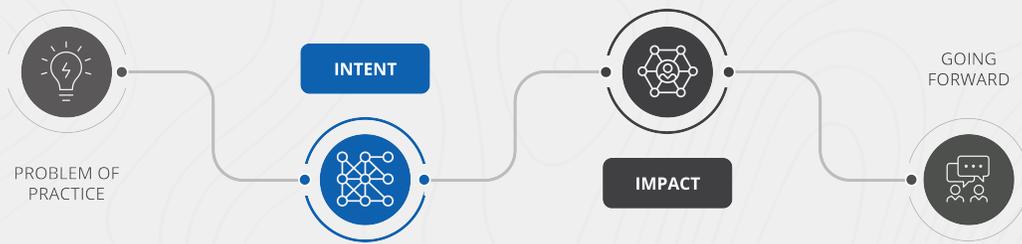

Manitoba First Nations Education Resource Centre Inc.

Organization:	**Manitoba First Nations School System**
Province:	Manitoba
Date:	**Spring 2025**
Lead:	Karl Hildebrandt, Educator and Community Facilitator

Intent

This use case began with a simple but powerful idea: data is not just something to be studied—it can be something students own.

Following the successful implementation of the Data Dunkers Fundamentals program at 12 Manitoba First Nations schools, educators saw how students engaged with data not just as a numeracy skill, but as a way to tell stories, surface truths, and support local change. The sessions sparked curiosity, pride, and possibilities for deeper exploration. But they also surfaced a deeper tension: too often, First Nations students are positioned as the subject of data—not the stewards or storytellers of it.

In response, regional coordinator Karl Hildebrandt and the Data Dunkers Program Manager co-developed a new opportunity: an AI-supported data storytelling project rooted in First Nations priorities. Rather than impose external metrics or frameworks, this initiative invited students to ask their own questions, collect and interpret data that reflected their lived experience, and use AI as a support tool—not a decision-maker—to help articulate insights in their own voice.

The intent was not to teach AI in isolation, but to explore how emerging technologies could serve First Nations students in telling stories that matter to them, grounded in their lived experience and cultural context. This meant embedding cultural reflection, community checks, and First Nations perspectives throughout the process—ensuring AI supported identity, voice, and data sovereignty in respectful, authentic ways.

To bring this vision into practice, two First Nations middle schools were selected where teachers expressed interest in conducting a deeper project focused on data, voice, and AI. Karl provided in-person support at both schools—helping guide the rollout, facilitate class activities, and assist students in using technology tools to bring their stories to life. Together, the schools piloted a culturally rooted inquiry model, with AI used under teacher direction to support respectful summarization, reflection, and creative expression.

Piloting this model also created space to explore implications for long-term practice. A key part of the approach was positioning teachers as facilitators of student inquiry and stewards of respectful AI use—helping students recognize when AI needed correction, cultural reframing, or re-voicing. The project aimed to inform future MFNSS approaches to curriculum, transition supports, and culturally aligned uses of emerging technologies.

This use case is intentionally grounded in equity—not just in access to AI, but in whose stories and cultural knowledge are honored in its use. It is about creating space for students to move from being represented by data to becoming narrators of their own data journeys, using AI to clarify, question, and communicate—not to replace their voice, but to help it carry further.
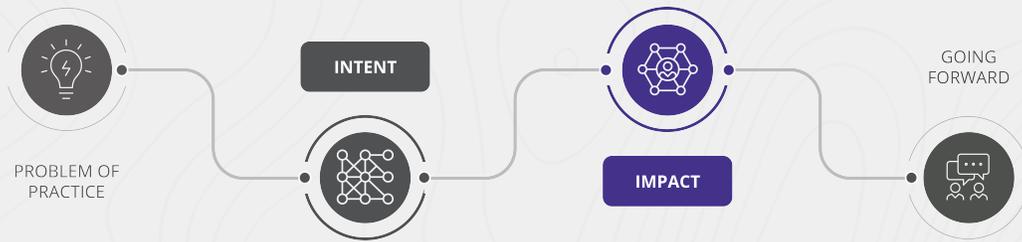
The lessons and structure that followed are not the intent—they are the method. The intent is to reposition data and AI as tools for First Nations students to investigate what matters to them, with care, creativity, and control.

Impact

Rooted in Story, Driven by Voice

At the heart of this project was a shift: from using data about students to creating data with students. Across two pilot schools—including [Roseau River](#) and [Keeseekoowenin](#)—students explored real challenges such as attendance, transition to provincial schools, and cultural identity, working together to design responses. AI played a supportive role throughout, offering prompts, summaries, and visualizations, but always under teacher guidance and student review.

The work began with a storytelling activity. Students shared personal or inherited stories that carried teachings or life lessons. After hearing one another's stories, they compared their reflections with AI-generated "memories"—an activity designed to highlight the difference between lived experience and algorithmic response. Educators noted this helped establish AI as a useful tool, but not a substitute for student voice or cultural depth.

From Reflection to Investigation

Students conducted classroom surveys about school attendance and engagement, inviting both students and adults to share their reasons for attending or missing school. The collected data was summarized and visualized with AI assistance, which helped illuminate patterns and spark rich discussion. Students critically reviewed the AI summaries, often pointing out when a word choice or omission didn't align with their lived experience.

This data served as a springboard for deeper analysis of provincial graduation rates. Students used AI to help interpret statistical charts and identify key differences between First Nations and non–First Nations outcomes. These visual comparisons raised important questions about systemic barriers and gender-based trends. When AI missed local or cultural factors—such as early parenting, lack of land-based learning, or changes in school structure—students voiced those gaps, reinforcing the value of cultural framing in all forms of analysis.

Through these discussions and reflections, students identified success factors they felt mattered most in their learning journeys: land-based learning, instruction in their local language, and relationships with teachers from their communities.

Designing the School They Deserve

As a culminating activity, students used Minecraft Education to design and build their "ideal school." Across the builds, several common elements emerged: Ojibwe language Anishinaabemowin classrooms, signboards with greetings, land-based learning spaces, culturally relevant artwork, and a preference for local teachers who students felt understood and supported them. Gymnasiums and common areas were also emphasized as places of connection and pride.

In one school, each team independently included an Ojibwe language Anishinaabemowin classroom—an outcome that teachers described as deeply meaningful. Educators noted that students took ownership over their builds and critically evaluated AI suggestions, rewording or reimagining outputs to ensure they aligned with community values.

A memorable moment came when one group's Minecraft school was destroyed by an in-game Ender Dragon—an unplanned disruption that led to a conversation about teamwork, responsibility, and persistence. Rather than derail the work, students chose to rebuild, reinforcing the learning that resilience and collaboration matter in both digital and real-world spaces.

Impact

Sharing with Community

The project culminated in a classroom showcase at Roseau River, which coincided with a community lunch event. Parents, siblings, and local community members visited the classroom, where students eagerly presented their Minecraft builds and explained their choices. Teachers reported that students were proud to share not only what they built but why they built it.

Educators also noted a moment of ethical awareness when students asked AI to generate a visual representation of the Wendigo. The AI declined, citing cultural sensitivity. This sparked a classroom conversation about which stories are appropriate to digitize, how cultural knowledge is shared, and who holds the responsibility for that sharing. Students engaged in meaningful reflection about the boundaries of digital storytelling and the importance of protecting traditions.

Despite challenges such as internet outages, limited equipment, and even wildfire-related school closures, the team remained adaptable. Facilitators adjusted plans on the fly, maintained focus on cultural grounding, and ensured that community voices guided every step of the process.

Framing the Impact

This pilot demonstrated that when First Nations students engage with data and AI through culturally aligned, inquiry-based learning, their engagement, ownership, and critical thinking increase. Students questioned AI outputs, identified gaps in summaries, and designed intentional, identity-rooted solutions. Rather than using AI to do their thinking, they used it to support their process—always with human judgment and cultural framing at the center.

Teachers observed increased student agency and interest, and noted how the project created space for authentic conversations about culture, identity, and systems. For educators, this was not only a project—it was a demonstration of how AI can be introduced responsibly in First Nations classrooms.

By the end of the project, students had moved from being represented by data to becoming narrators of their own data journeys—choosing what mattered, how to explore it, and how to share it. The project has already sparked interest as a potential model for other First Nations schools, offering a pathway to combine data, culture, creativity, and student voice in ways that are both respectful and transformative.

4. | **Centering First Nations Identity and Voice Through Data and Story: A Culturally Grounded AI Exploration. MFNSS**
Integrating AI in Education: Transforming Learning — An AI Use Case Initiative for Canadian Education
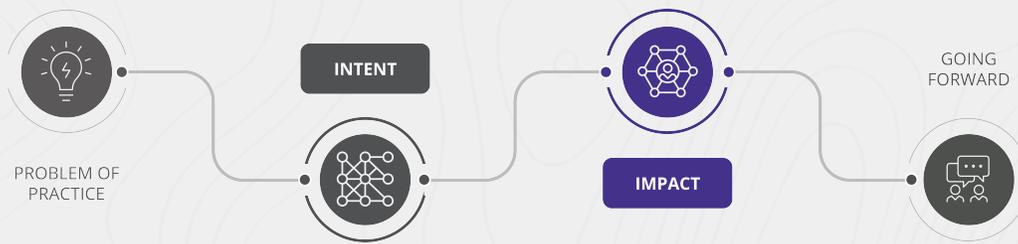
Impact

Professional Learning insights

This use case did not rely on formal workshops or standalone sessions. Instead, professional learning was embedded directly into the classroom through a co-teaching and co-design model that mirrored the kind of inquiry it aimed to foster. This approach created authentic learning experiences not only for students, but for teachers as well.

Co-Teaching as Professional Learning

The project began with Karl and Jeremiah co-facilitating the Data Dunkers Fundamentals program at 12 First Nations schools, using inquiry-driven, data-focused activities to engage students in thinking critically about patterns, stories, and identity. Through this hands-on work, educators experienced AI not as a distant tool but as a classroom partner—used to support discussion, summarize ideas, and visualize patterns while remaining under educator control.

This approach laid the groundwork for the AI use case pilot. When two middle schools were selected for deeper engagement, Karl continued using a co-teaching model, working alongside teachers to introduce, guide, and adapt the project in real time. His presence in the classroom allowed for:

• On-the-spot modeling of AI-supported activities,

• Collaborative lesson design rooted in teacher priorities and classroom needs,

• Immediate reflection and adjustment to ensure cultural alignment and learning integrity.

"Having Karl in the room made the difference. He could pause with the students, reflect with me, and help us both think through how AI could support—not shape—the work." —Teacher Reflection

Modeling AI Use That Respects Identity and Context

The professional learning was not just about tools—it was about how AI is introduced and used. Each lesson was designed to show:

• *Respectful prompting and output review,*

• *Bias awareness in AI-generated content,*

• *Critical questioning of summaries and visuals,*

• *Ownership of data and student voice in decision-making.*

Teachers were not asked to adopt pre-built AI tasks, but instead engaged in co-constructing a process where AI supported deeper thinking and storytelling. This allowed educators to internalize the mindset of facilitation rather than automation—and to see AI not as a replacement, but as a responsive thought partner when guided by cultural values and teacher expertise.
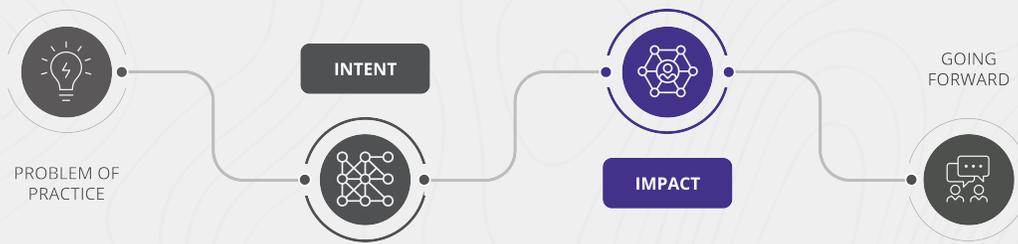
Impact

**Professional Learning insights** *(continued)*

"I learned how to check what AI gives us, and how to help students decide what to keep, what to question, and what to change." —Teacher Reflection

What Worked Well

• Job-embedded coaching: Co-teaching allowed for responsive support, not generalized advice.
• Inquiry-driven modeling: Teachers participated in the same kind of learning they would later lead.
• Culturally grounded planning: Every activity included space for reflection and revision through a First Nations lens.

Areas for Growth

• Time for teacher reflection: The intensive format left little time for teachers to debrief or document their learning during the process.
• Expanding comfort with facilitation: Some educators expressed interest in more opportunities to practice guiding AI use themselves—especially when it comes to managing student critique of AI outputs or integrating reflection into inquiry.
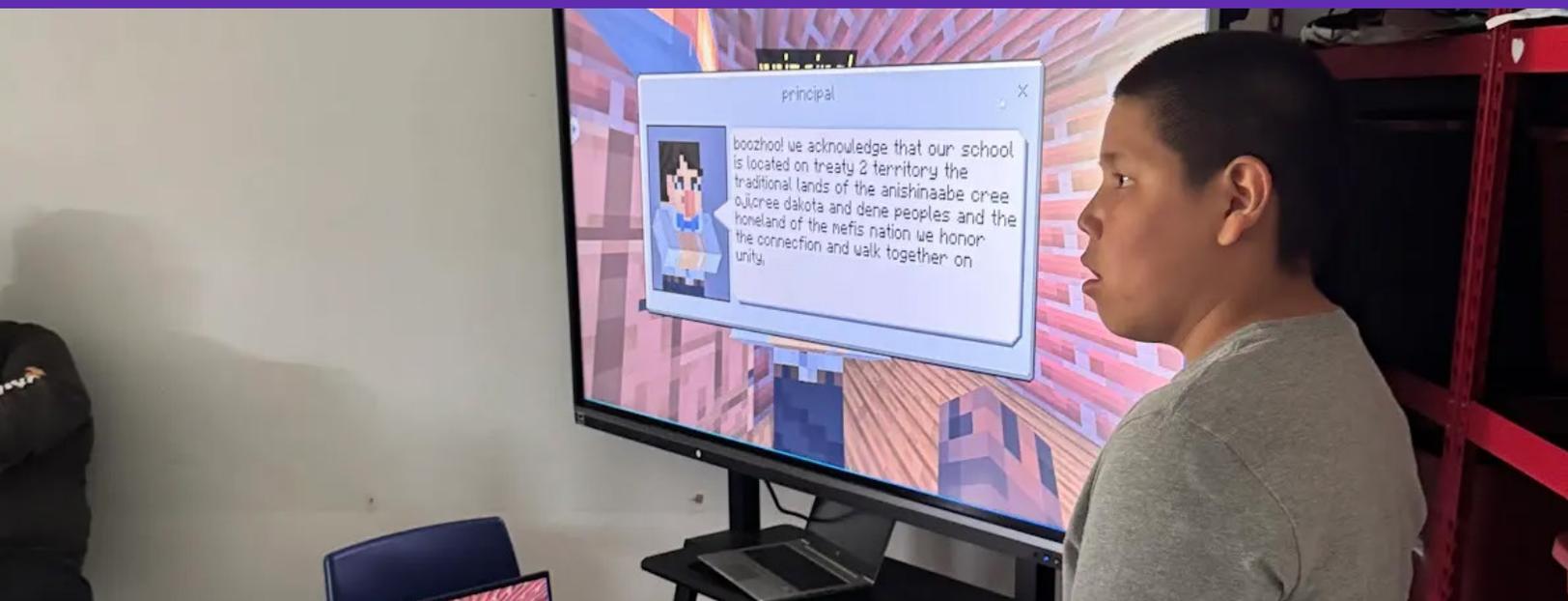
Going Forward

This pilot demonstrated that AI and data can support meaningful, culturally aligned learning when approached through co-teaching, community voice, and student-centered design. Building on this experience, MFNERC is now exploring ways to deepen and expand the work—both within the region and as a possible model for other First Nations schools.

Exploring Regional Scaling and Community-Driven Planning

MFNERC is considering how similar projects might be introduced in other schools using a community-led planning process. Early ideas include conducting local consultations with educators, students, Elders, and leaders to identify culturally specific priorities—such as language preservation, land-based learning, or smoother transitions to provincial schooling. The hope is to create engagement tools and protocols that reflect First Nations values and can be adapted by other communities.

Exploring Offline, Secure AI Use to Support Data Sovereignty

MFNERC is also exploring the potential of offline, locally operated large language models (LLMs) to support both data sovereignty and equitable access. In many First Nations communities, limited or inconsistent internet connectivity creates barriers to engaging with online AI tools. Local LLMs that run directly on school devices without internet access could provide a more secure, accessible, and culturally safe option for students and educators. Early conversations have focused on their potential to support language work, community storytelling, and analysis of local data—while ensuring that sensitive information stays within the community.

Prototyping Practical Guidance and Visual Resources

Rather than traditional policy or training materials, the team is envisioning hands-on, user-friendly guidance that teachers can use directly in their classrooms. Possible resources may include:

- Step-by-step visual workflows for integrating AI into student inquiry
- Best practices for guiding respectful prompting, bias checking, and output revision
- Student examples and screenshots showing how cultural voice was maintained
- Project templates for activities like data storytelling or environmental monitoring

Karl and others would continue supporting implementation through a co-teaching and modeling approach, helping teachers gain confidence in facilitating AI-supported projects that reflect local identity and inquiry.

By keeping cultural relevance, community leadership, and student ownership at the center, this work continues to ask what responsible, equity-driven AI integration could look like in First Nations contexts—and how students can lead that future, not just prepare for it.

Resources
- Fly over of the community
- Video Clip Part 1 and Part 2 from discussion with Karl Hildebrandt
- Slide deck about the designed project
- Full Teacher Guide on the projects
- Project Packets

C21 Canadians for 21st Century Learning & Innovation

DELLTechnologies