

Under threat but undeterred: Cultivating Indigenous education amid political hostility

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ABSTRACT

Collaborators across North Dakota, South Dakota, Montana, Wyoming, Idaho, and New Mexico are working to empower Indigenous students in STEM by connecting tribal communities, K–12 educators, higher education institutions, elders, and other cultural knowledge holders through the Cultivating Indigenous Research Communities for Leadership in Education and STEM (CIRCLES) Alliance. In this piece, the authors describe the powerful work of the CIRCLES Alliance as well as the challenges of doing this work under the constant threat of grant termination. They call upon elected officials and policy makers to look beyond anti-diversity, equity, and inclusion rhetoric and recognize the value of CIRCLES and other programs supporting STEM in historically marginalized communities.

KEYWORDS

Indigenous education, STEM education, STEAM education, funding

We write as collaborators in the Cultivating Indigenous Research Communities for Leadership in Education and STEM (CIRCLES) Alliance—one of us as the primary investigator for North Dakota (Dan), the other as an advisory board member deeply invested in Indigenous student success (Annette). Together, we've watched our work grow over the past three years into something both powerful and deeply needed. CIRCLES is a multi-state initiative funded by the National Science Foundation's (NSF) Inclusion Across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) program (CIRCLES Alliance, n.d.). Our focus is on empowering Indigenous students in STEM by connecting tribal communities, K-12 educators, higher education institutions, elders, and other cultural knowledge holders. CIRCLES operates across six states: North Dakota, South Dakota, Montana, Wyoming, Idaho, and New Mexico. Each state builds its network of tribal communities, educators, and institutions, ensuring that Indigenous voices are at the center of STEM advancement. This structure reflects both the diversity and unity of Indigenous educational leadership.

We've made serious inroads. In North Dakota, we've hosted culturally responsive teacher professional development, connected STEM outreach with our university powwow through Family STEAM Day, and created mentoring networks that pair Indigenous students with elders and Indigenous STEM professionals. This alliance is more than outreach. This alliance is restoration—of visibility, of belonging, and of Indigenous knowledge systems within scientific spaces (Brayboy, 2005; Castagno & Brayboy, 2008). And now, it may all be cut short. This work is critical given the stark underrepresentation of Native Americans in STEM fields. They make up less than 0.5% of the STEM workforce, according to the National Science Foundation (2023). Indigenous underrepresentation in STEM is not due to lack of talent or interest but the result of systemic exclusion and curricula that often overlook Indigenous contributions and knowledge. Our efforts are not just important—they are urgent.

At the time of this writing, our grant has not yet been officially defunded, but we are preparing for what seems increasingly inevitable. The Trump administration's Big Beautiful Bill—as recently passed by the House—guts NSF's INCLUDES program entirely. If the bill survives the Senate in its current form, the infrastructure we've built over three years could collapse almost overnight. Entire programs will go dark. Colleagues across all six states will lose their jobs. And students—many of them just beginning to see themselves as scientists, engineers, and researchers—will again be let down by the U.S. government, along with their communities. These aren't abstract concerns. They are

concrete harms. They threaten the momentum of a movement grounded in culturally sustaining pedagogy (Paris & Alim, 2017), and they send a chilling message: that Indigenous education, especially when it challenges dominant norms, is expendable. We've heard the advice: "Keep politics out of education." But our classrooms have always been political spaces—especially when those classrooms work to center the voices of historically silenced communities (Grande, 2004). The defunding of educational programs that serve Indigenous and marginalized students isn't neutral. It's an intentional erasure of perspectives that challenge the status quo.

Despite this obstacle, our team is actively pursuing new grants from federal, state, private, and philanthropic sources. We're in conversation with foundations that understand this moment and are willing to step in where the federal government may step out. We're working to institutionalize the most successful parts of our programming within partner universities and tribal colleges. And we're exploring ways to build endowment support so that future generations don't have to build from scratch every time a budget shifts in Washington. This strategy is not reactive scrambling. It's a proactive strategy grounded in our shared commitment to Indigenous futures. As Tuck and Yang (2012) argue, real transformation comes not from reforming broken systems but from reimagining what education can be when it's led by and for the communities it claims to serve. We have led two distinct professional development workshops: one focused on a culturally relevant general education curriculum and another specifically for a STEM curriculum that incorporates Indigenous perspectives and Traditional Ecological Knowledge (TEK). Embedding TEK into the classroom does not compromise scientific integrity. It enhances it (Cajete, 2010). Indigenous communities have applied TEK for generations to manage ecosystems and adapt to environmental shifts (McGregor, 2004).

Still, there's no denying the strain. Working under the constant threat of defunding takes a toll. It forces us to juggle innovation with triage. We are constantly asking ourselves how to stretch every dollar, maintain staff morale, and honor our commitments to students even when our own institutional backing feels uncertain. But this piece is not a eulogy. Our communities are far too resilient for that. We write because we need others to understand what's truly at stake now—and to stand with us. When Indigenous youth see their knowledge systems honored in STEM classrooms through mentoring by elders or learning that values cultural heritage, they stay. They thrive (Bang et al., 2014).

We need elected officials and policy makers to see beyond partisan noise and recognize the proven value of programs like CIRCLES. We need funders to step in where

public support has faltered. And we need our peers in education to speak out, not only against the defunding of programs, but against a larger agenda that narrows what's possible in American classrooms. We are not just losing a grant. We are risking a future in which Indigenous students are again marginalized, invisible in disciplines they have every right to shape. The future of STEM, and education broadly, depends on honoring multiple ways of knowing. When students see their cultures as sources of strength rather than deficits, they do more than succeed: They shape the future of teaching and curriculum.

References

- Bang, M., Curley, L., Kessel, A., Marin, A., Suzukovich, E. S., & Strack, G. (2014). Muskrat theories, tobacco in the streets, and living Chicago as Indigenous land. *Environmental Education Research, 20*(1), 37–55. <https://doi.org/10.1080/13504622.2013.865113>
- Brayboy, B. M. J. (2005). Toward a tribal critical race theory in education. *The Urban Review, 37*(5), 425–446. <https://doi.org/10.1007/s11256-005-0018-y>
- Cajete, G. A. (2010). Black Elk speaks: Being the life story of a holy man of the Oglala Sioux. *American Indian Quarterly, 34*(2), 262.
- Castagno, A. E., & Brayboy, B. M. J. (2008). Culturally responsive schooling for Indigenous youth: A review of the literature. *Review of Educational Research, 78*(4), 941–993. <https://doi.org/10.3102/0034654308323036>
- CIRCLES Alliance. (n.d.). Home. <https://circlesalliance.org>
- Grande, S. (2004). *Red pedagogy: Native American social and political thought*. Rowman & Littlefield.
- McGregor, D. (2004). Coming full circle: Indigenous knowledge, environment, and our future. *The American Indian Quarterly, 28*(3), 385–410.
- National Science Foundation. (2023). *Women, minorities, and persons with disabilities in science and engineering*. National Center for Science and Engineering Statistics. <https://nces.nsf.gov/pubs/nsf23315/>
- Paris, D., & Alim, H. S. (2017). *Culturally sustaining pedagogies: Teaching and learning for justice in a changing world*. Teachers College Press.
- Tuck, E., & Yang, K. W. (2012). Decolonization is not a metaphor. *Decolonization: Indigeneity, Education & Society, 1*(1), 1–40.