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Title:

“Two-Eyed Seeing: NASA & Indigenous Astronomy for the Benefit of All...Elevating Our Voices During Covid-19 and Beyond”

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Abstract of your submission (max 3000 characters) \*

As challenging as recent days have been, it has given us the opportunity to re-examine normal and re-evaluate our priorities. Covid-19 has been like a global earthquake that has led to many broken systems being revealed, and yet in this terrible ‘leveling event’ there is the opportunity to re-learn and build better. This work is at the intersection of STEM education, leadership, and Indigeneity.

Countless efforts—scholarly and other—are underway to access Indigenous forms of knowledge and to find ways to make them available for integration into K-12 academic curricula as well as for public audiences. As Indigenous Knowledge holders and scholars our work addresses three critical barriers to bridging this gap between science communication and communities: (1) Great European man histories, (2) written sources, and (3) relationships.

(1) History at the K-12 level has generally followed ‘great man’ narratives as a pedagogical tool to draw students into complex historical events through individuals. Histories of science have relied even more heavily on these tropes, as readily called to mind by Galileo, Newton and Einstein. In virtually all cases for U.S. K-12 curricula, these approaches center the agency of European men. What about the agency of Indigenous men, women and peoples? Which voices have been elevated? Which voices have been left out?

(2) Since Indigenous cultures (for the most part) preserved knowledge in forms other than in written records, the effort to represent them is thwarted. Indigenous science sits oftentimes in distributed knowledge (community knowledge, sacred/elders/leaders/women’s knowledge). Indigenous science in most cases is spoken knowledge that is transmitted through apprentice/participation as well as orally. If only one method of knowing is deemed ‘authentic’, how can Indigenous ways of knowing be considered valuable?

(3) As academia itself is rooted in an epistemology that organizes knowledge into silos for efficiency, specialization, and productivity, we must consider what relationships are lost in the fragmentation. Consider three separate networks: scholars, Indigenous knowledge holders, and K-12 educators<sup>1,2</sup>. To what extent is there a collaborative, working relationship between these three

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<sup>1</sup> not mutually exclusive

<sup>2</sup> also includes their students

entities so that the end result is access to knowledge, experiences, and resources on the desktop of the Indigenous student?

Presented here is the Indigenous-led project: *Two-Eyed Seeing: NASA and Indigenous Astronomy for the Benefit of All*, a national (U.S.) K-12 covid response project that brings together --- Indigenous Knowledge holders, scholars, and K-12 educators --- in a fast-moving, collaborative, and creative process that embodies dual learning. Ultimately, students engaged not only as 'consumers of content' but as 'co-producers of content'. Indigenous voices were elevated.