

# The Six Rs of Indigenous Research

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Our purpose is to develop and propose a conceptual framework based on respect, relationship, representation, relevance, responsibility, and reciprocity (the Six Rs), to be applied in studies using Indigenous research methodologies (IRMs). This conceptual framework builds upon the extensive work of numerous Indigenous scholars who brought this conversation into the literature and research enterprise. Our goal is to synthesize the Six Rs, describe how they complement and inform one another, and explain our process for their implementation and interpretation as a framework to develop and answer research questions. The Six Rs provide a representative research framework and can be a powerful guideline.

## THE HISTORY OF DECOLONIZING RESEARCH METHODS

Emphasizing the significance of decolonizing research methods in higher education and implementing the Six Rs' guiding principles provides positive alternatives to systematic atrocities and injustices (Baskin, 2005; Cajete, 1994, 1999; Deloria & Wildcat, 2001; Harris & Wasilewski, 2004; Kawagley & Barnhardt, 1998; Kirkness & Barnhardt, 1991; Kovach, 2008; Smith, 2012; Wilson, 2001, 2008).

Diversifying the professoriate and promoting social changes aimed at equity are ongoing processes that require students, professors, and administrators to collaborate meaningfully with Indigenous communities. The small but diverse group of Native American faculty in science, technology, engineering, and mathematics (NAF-STEM) fields reaches far beyond the confines of tribal colleges and universities (TCUs) and predominantly white institutions (PWIs), which is why we look to traditional ways of teaching and knowing. Our ancestors managed an array of life experiences and successfully passed down information orally.

Important skills were modeled by the community to teach generations of people how to live in the world. These actions and teachings are embodied in the Six Rs.

In 1991, Kirkness and Barnhardt explored the needs of Indigenous students in higher education. The students emphasized that their Indigenous identities and worldviews demanded respect. Students said they needed an educational system that was relevant to them and one that reciprocated relationships with others, which would in turn support students in their personal responsibilities. Though made in an effort to provide equity in education, non-tribal institutions' attempts to enact sustainable practices that ensure success rates for Indigenous students continually fail to meet expectations. Unlike at TCUs, an internally biased focus on colonizing cultural forces continues at non-tribal institutions. Tierney (1993) argues that these types of mindsets make Indigenous students invisible. Non-tribal institutions must set aside their established norms in order to become more responsive to Indigenous populations. Institutions must first subject themselves to the human and the non-institutional, then allow institutions to increase their "domain of human knowledge" and faculty to "become vulnerable" (Scollon, 1981, as quoted in Kirkness & Barnhardt, 1991, p. 7-8).

Vine Deloria Jr., one of the twentieth century's leading scholars, referred to Gregory Cajete's *Look to the Mountain: An Ecology of Indigenous Education* (1994) as revolutionary for building "intellectual bridges" (p. 14) between different ways of knowing. Cajete describes his work as a 27-year "evolution of thinking" (p. 15) about traditional Indigenous educational systems and philosophies. He advocates for advancing traditionally formed foundations of Indigenous values and orientations into contemporary, culturally-based educational processes. Cajete provides a culturally sensitive overview of Indigenous concepts rooted in traditional values and principles that ground Indigenous education in communal, holistic, and diverse methodologies. The knowledge obtained involves stages of personal accomplishment, illustrating what Cajete (1994) termed "ecology of relationship" (p. 4).

In later work, Cajete (2000) expanded upon this concept as an ever-evolving philosophy embedded in environmental ethics and integrated communal needs, where people expressed gratitude for all the gifts they received from nature for the good of the whole community. Successes were achieved when people collectively exerted themselves for the community, drawing upon energies surpassing those retrievable by isolated individuals. "This is the basis for the precept of Indigenous Science that a single individual's vision may transform a society, or that a rain dance done properly with one mind, can bring rain" (p. 19).

In this long-established of-one-mind idea, a person's ethical development is linked to that individual's community. It consists of more than the moral and political. Within this ethical development it is common and rational to include unseen natural phenomena as well as our relationships to animals and plants so that we might gain knowledge from them (Deloria & Wildcat, 2001).

The worldviews and corresponding knowledge systems of Indigenous communities have a valid "adaptive integrity" that frequently conflicts with formalized Western science education (Kawagley & Barnhardt, 1998, p. 2). Maintaining the interdependent relationships between the visible and invisible in the world in reciprocal and respectful ways is conducive to living in balance and harmony with creation. One of the challenges when two profoundly different worldviews come together (1998, pp. 4-7), however, is reconciling incongruities that exist between Western institutional structures and complex Indigenous cultural forms and practices. Kawagley and Barnhardt (1998) and Knudtson and Suzuki (1992) point out that although there are a number of complexities that emerge when these two conflicting worldviews converge, the social constructs and intrinsic belief systems in Indigenous societies lean toward giving and shared decision making within close-knit communities, extended family, and respected elders.

For the following discussion, our team recognizes and honors the foundational groundwork completed by Kirkness and Barnhardt (1991) and others in naming the "Four Rs": respect, relevance, reciprocity, and responsibility. We expand upon that foundation out of a sense of reflection and growth, by contributing knowledge borne out of our work with Indigenous academics in the hope that we can describe additional concepts and inform future inquiry.

## **THE SIX RS: GUIDING PRINCIPLES AND CONCEPTUAL FRAMEWORK**

Based on the history described in the previous section, the co-authors here examined the literature to synthesize the Six Rs to be used as a conceptual framework within research focused on Indigenous research methodologies. Similar to Tribal Critical Race Theory (Brayboy, 2005), our Six Rs conceptual framework facilitates change in larger social and structural contexts by which Indigenous faculty thrive in a self-determined manner in all aspects of their academic and personal lives. Common wording and themes that existed in the literature and were based on IRMs were combined to create the following working definitions for the Six Rs and to shape a conceptual framework for research with and for Indigenous communities and peoples.

*Respect* is due regard for the feelings, wishes, rights, and traditions of others. It is mutually empowering by showing honor, considering the well-being of others' ideas, and treating others with kindness and courtesy. We need to show respect to our Indigenous community by recognizing the value of their knowledge, traditions, core values, particular worldview, and cultural integrity (adapted from Kirkness & Barnhardt, 1991; Steinhauer quoting Cree Elders, 2002). Respect also encompasses

honoring the Earth and mutually respecting the natural world and the elements (Assembly of First Nations, 2021). It recognizes the interconnectedness that Indigenous peoples have with place (First Nations, 2009). Through respect, researchers can fulfill their role and obligations to the community, to relations both human and natural (Chilisa, 2012), and develop long-term relationships with participants.

*Relationship* is grounded in complex layers of Indigenous identity and relationship with land, nature, ancestors, community, and future generations. It is founded on kinship and accountability, built on mutual honesty and trust, and shapes Indigenous realities. (Cajete 2000; Kovach 2008; Wilson 2001, 2008; Kimmerer, 2013). The Indigenous research paradigm encompasses the belief that Indigenous knowledges are relational and all living things in creation embody knowledge (Brayboy & Maughan, 2009; Wilson, 2001). When conducting research, the researcher must be honest and clearly identify the purpose and motivation behind the research. Researchers are responsible and accountable to all relationships (Brayboy & Maughan, 2009; Cajete, 2000; Kovach, 2008).

*Relevance* is being closely connected or appropriate to the education, experiences, perspectives, priorities, and ways of knowing, living, and doing in Indigenous communities (Goody, 1982, as quoted in Kirkness & Barnhardt, 1991; Kovach, 2008; Stanton et al., 2019). Relevance needs to be expanded and embedded in all stages of the research. This includes, but is not limited to: careful consideration of how the research is relevant to Indigenous peoples and communities, Indigenous worldviews, and their ways of living and knowing (Kovach, 2009); appropriate IRMs such as oral methods (e.g. storytelling, talking circle) rather than written literature (Goody, 1982; Wilson, 2008); historical and social contexts of tribal communities; use of IRMs in appropriate contexts (dependent on the inquiry question) (Kovach, 2009); research ethics and protocols established by Indigenous communities (e.g. a tribal nation's institutional research/review board), approved by the community, kept within the community, and given back to the community. In short, research must be meaningful and useful to Indigenous communities (Kovach, 2008).

*Reciprocity* is a continuous and intentional exchange process. It is “the belief that as we receive from others, we must also offer to others” (Rice, 2005, p. 7). There are “protocols and practices of reciprocity” (Smith, 2012). Practicing reciprocity allows all parties involved in the research to engage in a continuous dynamic relationship where they are provided equal responsibility to negotiate relationship building. In reciprocal relationships, resources are considered gifts (Suzuki & Knudtson, 1992; Kimmerer, 2013).

*Responsibility* is accountability for the people and knowledge put in our trust. Indigenous communities are responsible for their own narratives, stories, people, and histories, in the present and for future generations. We are responsible for the reciprocal relationships we have with Indigenous communities, the Earth, and all that is a part of them. Mutual responsibility for these values is crucial in the reciprocal relationships between Indigenous and non-Indigenous communities (Kirkness & Barnhardt, 1991; Wilson, 2008).

The concept of responsibility encompasses more than ethical research practices. Kimmerer (2013) says that as humans we must ask ourselves, “What is our gift? And how shall we use it? A gift is also our responsibility” (p. 347). Human capacity for gratitude is one of our many gifts, but gratitude alone isn't enough. It's intertwined with reciprocity. Responsibility can also take the form of ceremony through maintaining accountability to the relationships (Wilson, 2008) that are built with communities and continued efforts toward conducting sound, respectful, and ethical research relationships. This is especially important when all parties—the community, the researcher, and the institution—are equally participating in and finding ways to create a space and platform for responsible research.

*Representation* is having presence at the table and acting or speaking on behalf of another person or an entire group. Representation of Indigenous communities empowers them to identify and share what is relevant and important to their people. It allows the voice of the community and of each participant to be heard. (Kovach, 2008; Deloria & Wildcat, 2001.) Further, it is important for researchers to pay close attention to the history of colonized research conducted on marginalized populations (Chilisa, 2012; Smith, 2012). Participation and representation in research are crucial to making sure the research is meaningful and gives back to the community (Kovach, 2008). Conducting and representing research from a strengths-based or asset-based approach, rather than from a deficit- and damage-based angle, better reflects our Indigenous communities (Chilisa, 2012).

Representation includes the incorporation of IRMs, resulting in increased social justice. It also involves relationship building where the community can adopt what is relevant, identified as both “representation and participation in research” (Kovach, 2008, pp. 81-82). Social justice is additionally achieved when research pays attention to the impact of colonized methodologies on Indigenous communities and their assets.

## **DISCUSSION AND CONCLUSION**

In this work, we explored previous literature on the Four Rs, IRMs, and Tribal Critical Race Theory to develop and propose the Six Rs conceptual framework that can be used in scholarly work conducted by and with Indigenous communities and peoples. It is critical, however, to acknowledge and emphasize that the concepts in this framework complement and inform one another.

While we reflect on and add to prior literature in shaping the Six Rs into a conceptual framework for Indigenous research, we recognize that this framework is not solely our creation. Rather, our intent is to create a space for the Six Rs to be applied holistically. We advise against compartmentalizing the Six Rs within their individual, limited definitions. IRMs draw on millennia of place-based knowledge, although still fairly recent in academic literature and practice. Similar to IRMs, our Six Rs framework acknowledges and validates longstanding traditions among Indigenous communities generating scientific knowledge through processes of observation and experimentation congruent with their cultural values (Mazzocchi, 2006; Snow et al., 2016).

While individual knowledge can be accumulated and refined, knowledge of people and place is inextricably linked to histories and cultures. Our earnest desire is that by naming and making space for this knowledge in contemporary academia and associated research, the Six Rs conceptual framework can serve Indigenous and non-Indigenous scholars who are cultivating their skills and furthering the work within Indigenous communities. Additionally, our Six Rs conceptual framework is relevant to nine tenets of Tribal Critical Race Theory (Brayboy, 2005), recognizing how Indigenous scholars think and behave in ways unique to their worldviews, experiences, and culture, and positioning of Indigenous peoples in contemporary societies and institutions of higher education.

Previous scholars felt the need for developing and introducing alternative forms of conducting research within Indigenous communities (Kirkness & Barnhardt, 1991; Brayboy, 2005; Kovach, 2008; Chilisa, 2012; Smith, 2012; Simonds et al., 2013; Wind Chief & San Pedro, 2019). IRMs, and now potentially the proposed Six Rs conceptual framework, offer flexibility that allows Indigenous ways of knowing and learning to be included in research, whereas Western research methods often exclude Indigenous voices, perspectives, and processes.

## FUTURE WORK

There is now a growing body of Indigenous scholars who have used the Six Rs expressed here and similar concepts aligned with their own research such as in Carrion et al., (2022). We will be applying this framework in the analysis of qualitative data collected by the project through talking circles, examining the personal, relational, and collective experiences of NAF-STEM disciplines. Indigenous and non-Indigenous researchers may choose to use this framework in their research and data analysis or may choose to employ a similar process for creating their own Indigenous conceptual framework.

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