

Equity in Graduate Education Virtual Journal Club

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Developing an Indigenous Mentoring Program for faculty mentoring American Indian and Alaska Native graduate students in STEM: a qualitative study

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Summary

American Indian/Alaska Native (AI/AN) doctorates in STEM, are certainly underserved, and as a result are underrepresented, calling for a culturally congruent mentorship program. Because traditional Western academic paradigms are typically constrained to non-Indigenous assessments and perspectives, the authors' primary question is 'how can AI/AN graduate students in STEM successfully navigate graduate education with their cultural identity intact?'. Peer-reviewed articles, personal communication with professionals working in the field of AI/AN academic success, and professional training literature are used as the foundation for addressing the scarcity of Indigenous participation in the STEM fields. While it is true that STEM programs value academic rigor, Indigenous communities have values, too. Thus, we are working toward instituting a bicultural mentoring program that provides bicultural accountability. This paradigm includes the amalgamation of traditional academic mentoring with Indigenous values and kinship structures. A model is offered to help conceptualize and develop an Indigenous mentoring program (IMP) for STEM faculty who mentor AI/AN graduate students.

Methodology

The work was rooted in Indigenous research methodologies to include story, conversation, and considerations of relationships between faculty mentors and student mentees, and staff and administrators who work with AI/ANs. These factors (story, conversation, and relationships) make use of appropriate qualitative methodology suitable for working with Indigenous peoples, otherwise known as a conversational method [1-3]. Applying the conversational method is helpful in aligning research with

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Indigenous community ways-of-being and values. The goal is an authentic and dependable representation of lived experiences as they relate to AI/AN graduate students in STEM [2].

Key Concepts Defined

Indigenous or *less commonly* indigenous

of or relating to the earliest known inhabitants of a place and especially of a place that was [colonized](#) by a now-dominant group. Indigenous peoples.

Bicultural accountability

In this case, being accountable to one's cultural community of origin (family, clan, band, tribe, global Indigenous community) while simultaneously being accountable to the academic community (class, lab, dept. institution).

Cultural Humility

A process of reflection and lifelong inquiry; involves self-awareness of personal and cultural biases as well as awareness and sensitivity to significant cultural issues of others.

Theory Grounded in Indigenous Epistemologies

Indigenous Storywork, focused on the importance of protocol, relationship, and story [1] in a way that provides space for contemporary Indigenous scholars to make important assertions and address experiences left out when using traditional academic paradigms.

"By examining areas of concern that dis-serve AI/ANs, including problematic educational policies and the effects of adverse campus climates, it is clear that AI/ANs experience exclusion. In the act of constructing and implementing familiar and appropriate learning paradigms, AI/ANs are claiming educational space specifically to support their full participation in, and contributions to, higher learning"[4].

Indigenous research methodologies (IRM)

Challenges traditional academic research and serve to make research salient and reciprocal for distinctive Indigenous communities. These "methodologies" are not like monolithic, step-by-step procedures that follow objective and positivist ends. Rather, IRMs acknowledge the **lived realities of Indigenous peoples: diversity and complexity of tribes, communities, and Indigenous peoples' contemporary realities in humanizing ways as illuminated in tribal critical race theory (TribalCrit). Certainly, this diversity of perspectives manifests itself in varieties of language, cultural expression, kinship paradigms, and of course methods related to understanding the world through an Indigenous lens.** The conversational method [2] aligns with an Indigenous worldview that honors orality as a means of transmitting knowledge. Conversation is a relational process that is accompanied by a particular protocol that upholds the relationship, which is necessary to maintain a collectivist mind frame and is consistent with tribal knowledge [2,5]. Furthermore, conversational methods articulate the meaning-making practices of

mentoring from the interviewees' point of view. Research and specific questions emerge as a result of the relationship between a community and researcher.

Selected Findings & Implications

1. Successful navigation of academic environments for AI/AN grad students in STEM includes maintaining/growing Indigenous identity through resources and support that reimagine academic mentorship. Reimagining mentoring and role modeling so that community values and lifeways are made part of the STEM grad experience may enhance intergenerational success, as defined by both the academy and students' Indigenous communities of origin.
2. Faculty development concerned less with cultural competence, and more with cultural humility is needed. Cultural humility brings to light new ways of thinking and discussing race/ethnicity as well as associated struggles in academia. Indigenous worldviews are place-based, avoiding romantic/historical/demonized notions of Indigenous peoples, and are not limited to written historical accounts by outsiders. Knowledge is couched in Indigenous languages.
3. Relationality (the concept that we are all related to each other and that these relationships bring about interdependencies) shifts how we understand knowledge, relationships, and power in academia. However, barriers to embodying relationality within academia exist; removing these is key to an IMP. Example of barriers include:
 - a. faculty misunderstanding of Indigenous relationship paradigms related to mentoring;
 - b. faculty separation of personal from academic life, which students can experience as dehumanizing;
 - c. faculty mentors' expectations that students will enter the program knowing what to do.

An important aspect of relationality is the organic development of relationships in ones' constellation of mentors; this is essential for AI/AN students' bicultural accountability.

Topics for Discussion

- Our results indicated that all participants support the need for a connection beyond that of merely passing through the academy.
 - How do you delineate professional vs personal boundaries?
 - How do you value students for their professional and personal identities?
- If your campus or program does not have mentoring programming for Indigenous students, what would be a good next step in that direction?
- How can mentoring relationships be tailored to the individual without triggering/embodying/turning into problematic inclusion (tokenism, intraracial discrimination, superficial exoticization)?

- The STEM community typically honors academic lineage, which is reflective of kinship structures within Indigenous communities. How might you rearticulate your own:
 - Relationality within your academic community?
 - Constellation of mentors?
- Success is defined differently across cultures. Share a time when you thought you were successful, but others thought differently. Can you imagine students being in such a position?

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