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How Community-Driven Design Research Endures When the World is on Fire

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Abstract: Scholars have called for *equity-oriented, community-centered approaches* to STEM-related research and design to help address the persistent disparities and inequities in these fields. In response to this need, we explore a *community-driven design research* approach, a collaborative research process in which Indigenous partners maintain sovereignty. As a team of Indigenous and non-Indigenous educators, researchers, and designers, we present our thinking-in-progress of how we have engaged the initial phases of our community-driven research and endured in the midst of global pandemic and unrest in 2020. Findings capture a snapshot of our ongoing insights for effective strategies to engage and sustain community-driven design research as a critical methodological approach.

Introduction

Leaders in informal science education have argued for *equity-oriented, community-centered* approaches to STEM-related research, design, and practice and called for a recognition of the broad and diverse cultural, historical, and political roots of research, science, and technology (Bevan, Barton, & Garibay, 2018). One persistent challenge to broadening participation in this way is that many efforts operate from the assumption that science and research are acultural and apolitical, which results in a deep epistemological tension to *how* (Bang & Medin, 2010; Johnson, 2018; Morales-Doyle, Vossoughi, Vakil, & Bang, 2020). As a team of Indigenous and non-Indigenous educators, researchers, designers, and community members, we take a *community-driven design research* approach, a collaborative design process in which Indigenous partners maintain sovereignty as designers, to our partnership work. In this paper, we share the initial phases of our community-driven design research approach with the shared goal of preserving and sharing the culture of the Northwestern Band of the Shoshone Nation (NWBSN). In particular, we focus and reflect here on how our community-driven work endured and continues to endure both the coronavirus pandemic (i.e. COVID-19) and the global reckoning with racial injustice. We are guided by the following research question: *What are effective strategies and processes for sustaining community-driven design research in 2020?* We present a collective reflection on how our work together has been shaped by the catastrophic events of 2020.

Methods

Our community-driven process is heavily informed by TribalCrit Theory's (Brayboy, 2005) three key principles for partnering with tribal communities: respect and reciprocity in relationships, self-determination, and sovereignty. Our community-driven process is also shaped by community-based design research (CBDR; Bang et al., 2016) approach. This methodological orientation recognizes the historical, cultural, and political nature of partnering with Indigenous communities. We are collectively engaged in a five-year critical ethnographic (Madison, 2011) study. Data include: *fieldnotes* that are collaboratively written every week, *partnership-building artifacts* such as meeting agendas or resources shared, and *in-depth interviews* with the project team. We understand our design process as an intrinsic case (Stake, 2008), which has the purpose of understanding the case itself. We employed a collaborative and reflexive meaning-making analytic approach to construct cases. We collaboratively triangulated interpretations and claims across partners, perspectives, and documentation. Tribal partners' (Author 2, 3, 4 & 5) analytic insights are integrated in this work as transcriptions of data analysis meetings. University-affiliated drafted a re-telling of our collective insights and Tribal Elders reviewed the manuscript and these re-tellings prior to submission.

Insights & Implications

The simple practice of *gathering* was an act of resistance to the isolation the pandemic has brought. Every week we come together as a whole. This showing up, even in the virtual world, is something we attribute to our

persisting together as a collective through serious personal challenges and unanticipated project roadblocks. Here are five practices we employed in our gatherings that helped us endure:

Building a collective foundation and vision together. We completed research ethics training, a cultural competence course, and mapping our shared values and goals. Gwen Davis, NWBSN Tribal Elder explains, "I've never been part of the ground work like this before. It makes me feel young! It is such an energy…you know, somebody asking you what your opinion is." Gwen further expounds that this foundation allowed us "to express ourselves [and made] our group stronger."

Staying flexible and open to new possibilities. Zoom afforded connections amongst the team and, even more significantly, between tribal elders and youth in new ways and across previous geographical constraints. Gwen reflects, "Learning how to Zoom…this is a whole new brand new area, you know, having to speak and talk on a computer." From these new kinds of connections, a need emerged for a youth coordinator, Monica Smiley, NWBSN Tribal Member. She shares her experience with this practice, "Everyone has a flexible schedule and someone is always available…having this support there is really good like a support system."

Reflexivity and responsivity. Our weekly gathering became a safe space for reflection and iteration. Patty Timbimboo-Madsen, NWBSN Tribal Elder, highlights, "Because it is research, you know, we have the ability to change...to step back and look at it and review it again to see if we can come up with a better way..."

Adapting technology. Rios Pacheco, NWBSN Tribal Elder, shares "Now we're using the technology and people like what we're doing and we're still sharing our traditions. But what we don't visualize is that other people are tuning into those and now they're generating more information than if we could just talk to them…so it's really helping a lot to share our culture and share the ideas…the stories so that way more people can understand the culture that we have."

Humor. Put simply, we laugh together. This, for us, is a sign of deepening trust in our relationships.

In our work, we join scholars who came before us (e.g., Bang & Medin, 2010; Johnson, 2018; Morales-Doyle, Vossoughi, Vakil, & Bang, 2020) and argued for a fundamental shift in what it means to conduct research and do science. Our insights build on and contribute to existing work exploring and defining community-based and design-based methodologies (e.g., Bang et al., 2016). We posit that, now more than ever, we must humanize our research methodologies not only for positive community impact, but also to decenter harmful and marginalizing notions of what it means to do research.

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