

Community-Driven Design: A Reorientation to Designing Tools for Learning With Communities

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Abstract: Design is not neutral. Making explicit the design assumptions that drive our work is essential toward designing for culturally sustaining/revitalizing futures. In this short paper, we share our development of a community-driven design process that supports our collaborative work of inviting Tribal families to share and preserve cultural knowledge through building relationships with the land. Specifically, we present a case study to illustrate the design process and reciprocal relationship that we cultivated between Tribal Elders and University designers. As a team, we collaboratively designed a series of learning guides to share the Tribe's culture with families. We characterize the community-driven design process with four design waves: sharing, interpreting, learning, and reflecting. This design process invites a slow, rhythmic, and intentional knowledge exchange. Our work contributes theoretical and practical understandings of community-driven design as a process to sustain/revitalize culture.

Objective

Designers hold exceptional power to invite or disinvite certain knowledge and values. Thus, *who* designs matters, *what* is designed matters, *how* it is designed matters, *why* it is designed matters, and *when* it is designed matters, especially in the context of designing for culturally sustaining/revitalizing goals (McCarty & Lee, 2014). Scholar, who labor in this area, highlight the importance of making explicit the assumptions driving our design work; for example, Bang and colleagues explicate the reality that “what is good, right, true, and beautiful” (Bang et al., 2016, p. 29) is rooted in cultural, historical, and political knowledge and values. Therefore, it is necessary to disrupt who designs learning environments and technologies by redistributing power from education researchers and designers to local communities.

As designers, Indigenous peoples have been actively reclaiming *who* designs by centering the uses of digital and original technologies on “meaningful community-driven goals” (Bang et al., 2013, p. 707). These goals disrupt colonizing purposes of technologies and repurpose them to assert self-determination through language revitalization and cultural preservation. By pursuing meaningful community-driven goals, communities become designers and redefine what it means to create with technology through rich innovations at the intersection of learning and culture (Bang et al., 2013).

In this paper, our team explores our development of a collaborative design process that supports the goal of sharing and preserving knowledge between and within Indigenous communities and families. As Indigenous and non-Indigenous researchers, designers, and educators, we specifically investigate: *how do we employ a community-driven design process to create learning guides for Indigenous families to build relationships with the land?* Specifically, we share our collective analysis and reflection on our design process, which led to the identification of four design waves: sharing, learning, interpreting, and reflecting. Our work contributes practical and theoretical understandings of community-driven design led by a Tribal Nation.

Background

In our work, we take a culturally sustaining/revitalizing approach (McCarty & Lee, 2014) to support and develop our relationship with the land. Culturally sustaining/revitalizing approaches emphasize understanding and conceptualizing educational practices specific to Indigenous learners. Culturally sustaining/revitalizing pedagogies are deeply rooted in recognition of Tribal sovereignty by pushing for the decolonization of learning (e.g., McCarty & Lee, 2014). These stances inform our work to center *relationship with the land* as a way to sustain and revitalize cultural identities. Thus, we understand our relationship with the land as fundamentally cultural. How people relate to land and nature is socially constructed and varies across cultures (e.g., Medin & Bang, 2014). Relating with the land is highly integrated and, in some cases, synonymous with culture. Thus, we need to restore our relationship with the land to sustain and revitalize culture.

Community-based approaches to design

As a field, the learning sciences is rich with seminal work around collaborative design processes that include designing *with* rather than *for* communities. In our work, we are heavily shaped by a community-based design research (CBDR; Bang et al., 2016) approach. Specifically, CBDR involves “design efforts that work from within the “ongoingness” of communities” (p. 11) and is characterized by axiological innovations that occur as a result of three interrelated design commitments: critical historicity, intergenerational learning, and transforming institutional relations (Bang et al., 2016). This orientation to design recognizes the historical, cultural, and political nature of partnering with Indigenous communities and embraces the need to invite community-wide and intergenerational participation. Since community-based efforts are often characterized by various levels and forms of community participation, we use *community-driven* in our work to clarify the Tribal Nation’s sovereign role across our research and design efforts. As a team that includes non-Indigenous researchers, our stance on CBDR is characterized by a TribalCrit (Brayboy, 2005) orientation toward partnering with tribal communities: respect and reciprocity in relationships, self-determination, and sovereignty.

Methods

As part of a multiyear critical ethnographic study, we present in this paper an intrinsic case study (Stake, 2008). Through developing the case, we seek to better understand the design process and reciprocal relationship that developed between Tribal Elders and University design researchers, who collaboratively designed a series of learning guides to engage families in building relationships with the land. Given the iterative and multiyear nature of our approach, participants varied over the course of the design process. The bulk of the design work happened between Joaquin (pseudonym to maintain anonymity), a Tribal Elder and designer, and Author 1 (Kenden Quayle) & Author 3 (Breanne Litts), two University design researchers. The process also included other Tribal Elders and University-affiliated Indigenous and non-Indigenous design team members.

Data collection and analysis

To construct the case presented in this paper, we draw on *personal communication* between Tribal Elders and University design researchers, *design artifacts* developed throughout the process, *fieldnotes* that were collaboratively written every week, and *analytic discussions* across the entire project team. We employed a collaborative and reflexive meaning-making analytic approach to construct cases by triangulating (Creswell, 1998) interpretations and claims across partners, perspectives, and documentation. Joaquin’s analytic insights are integrated into this work as transcriptions of data analysis meetings. In addition, University design researchers drafted a re-telling of our collective insights, and Joaquin reviewed these re-tellings before submission.

Findings

While analyses are ongoing, we present four waves of a community-driven design process: sharing, interpreting, learning, and reflecting. Here we share one moment between Joaquin and Kenden to illustrate how our design team employed community-driven design.

Sharing

Building a relationship based on trust and reciprocity with community partners prompts the possibility of sharing. Thus, a community that shares ideas, designs, and knowledge is a key marker of a community-driven design process. In our case, the trust cultivated within the multiyear partnership made space for Joaquin to openly share a vision and plan for a Tribal Plant Guide, which included Shoshone words and his knowledge of plants. Part of the trust-building process includes only capturing what is explicitly permitted for research. Due to the confidential nature of this initial exchange, we do not have details of it captured as data. This level of confidentiality was maintained throughout the design process: nothing was shared with additional team members or beyond until Joaquin said it was the appropriate time to do so.

Interpreting

Interpreting often followed sharing because the design process allowed space for each designer to assess individual understandings of the knowledge that was shared. Interpreting occurred any time there was a meaning-making opportunity to understand cultural knowledge. Joaquin guided this wave with what he called “hints.” By this, we mean that questions and unknowns were not answered hastily or entirely; instead, the team was invited to interpret their own meaning. In one example of interpreting through hints, after reviewing the first iteration of the Tribal Plant Guide, Kenden suggested to Joaquin that we include pronunciations for the Shoshone words in the guide. Though Joaquin agreed this would be helpful, rather than offer the pronunciations himself, he

encouraged Kenden to sound out each word by herself first and then share the results with him. This prompted an active exchange of interpretation. Here is an exchange from 01/07/2022 that serves as an illustrative example:

Kenden: “Does sammabo mean berries? For the berry side should it say sammabo instead of waapi?”

Joaquin: “Ok lets put Juniper Berry under Sammabo like [where] Juniper under Waapi take out ok”

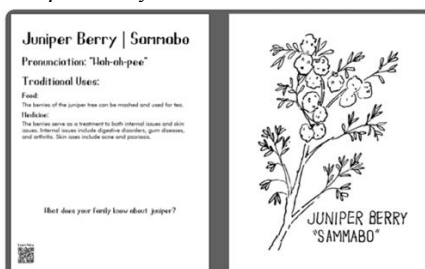
Kenden: “Alright! Like this?” [see Figure 1]

Joaquin: “Yes Kenden that’s grt8 but pronunciation is Sammabo not Wah-ah-pee that’s the tree itself other than that grt8 good work Kenden THANK YOU much”

Kenden: “thank you for catching that! I will fix it! I think that is all I have for you today! Thank you!!”

Joaquin: “Kenden grt8 this plant book will help the youth know more about how we used the things in nature and what we named them in Shoshone language thanks again Kenden”

Figure 1
Juniper Berry “Sammabo”



Learning

Learning served as a rhythmic knowledge exchange between Joaquin and Kenden to check in with their interpretation results. When developing the Shoshone pronunciations, Joaquin learned how to think about designing for learning in this written format and Kenden learned the Shoshone language and pronunciations. As time went on, many of the knowledge exchanges over Slack started to include knowledge beyond the Tribal Plant Guide, such as greetings and sign-offs. As an example, consider this Slack exchange from 01/23/2022:

Joaquin: “Kenden Aishen AI has line under like Daigwade for thank you”

Kenden: “Hi [Joaquin], sure thing, which book can this be found in?”

Joaquin: “No book just letting you know how to say Thank you – Aishen”

Kenden: “That’s great, Aishen! (with a line under the ai) ☺”

Another important aspect in designing the learning guides involved relating with the land by learning directly from the plants and nature. Joaquin explains this process: “you know when you’re doing this, you have to go out and find some of those plants. But then when you’ve found them you can put a lot more detail in them... When you have that, I guess I call it hands on contact with the things that you are interested in, you have a better way of being able to learn” (Reflective Conversation, 07/14/2022). In this iterative rhythm, we gain knowledge slowly.

Reflecting

Because this was an iterative process marked by the careful sharing, interpreting, and learning, there were moments between exchanges that allowed space for reflection. These spaces for reflection characterize the reflecting wave of community-driven design. For example, in one exchange, Joaquin continued researching the plants and shared via email on 12/10/2021 that he found a Shoshone name for a plant that was not currently included in the guide:

Joaquin: “Good day (tsaaN da bai) Kenden one change a better name for horse tail Sebu so scratch out Isayugip thank you Kenden... Kenden one more change mountain mahogany name Tonambe I didn’t have name before now I do”

Allowing this time is a critical characteristic of community-driven design, as Joaquin explains, “And then what was good was being able to edit, editing. Going back to refine everything. Having the ability to do that and not say, ‘well, we’re just gonna give you this much time, we need to have it out.’ Because when you’re ready and you say okay let’s do it now, then all of a sudden something pops up.” (Reflective Conversation 07/14/2022). The wave of reflecting remained unconstrained to allow everyone however much time and space needed to consider and (re)consider the guides and generate more sharing.

The process enacted with the learning guides

The waves of the community-driven design process that shaped the creation of the learning guides are reflected in the product of the guides themselves. Joaquin explains the goal of the Tribal Plant Guides: “so doing that coloring book, that was the whole idea was to get the youth and others interested in wanting to know more and to use them.” (Reflective Conversation 07/14/2022). Everything included in and left out of the guides was intentional, as the guide serves as a starting point for the facilitation of Tribal members’ relationship with the land. Joaquin takes the same “hint”-based approach in his design of the guides: “so, when people look at that book, they can also go further because we don’t want to give them all the stuff when you’re trying to use a guidebook, to give them all the information. They still need to find out a lot on their own, and it makes it better for them.” (Reflective Conversation 07/14/2022). These goals of sharing, interpreting, learning, and reflecting manifested in the guide with a space for people to add their own knowledge by asking: “what does your family know about [particular plant]?”. It is important to acknowledge how the waves of community-driven design are embedded in the product (i.e., the learning guides) of the process, because it further demonstrates the importance of *who* designs and *how* design happens.

Significance

The cadence embodied by the community-driven design process is unique, as it invites a slow, rhythmic, and intentional exchange of knowledge through four waves: sharing, interpreting, learning, and reflecting. Of special importance is how Joaquin and his vision led the entire process. Unlike standard Western design processes, which are often characterized by discrete steps and strict deadlines, the community-driven process is centered on trust and relationships. Community-driven design is, instead, characterized by meaningful community-driven goals – or “what is good, right, true, and beautiful” (Bang et al., 2016, p. 29). If we take seriously goals toward culturally sustaining/revitalizing design, we must also consider what forms of process will support these designs and accept that these forms will invite new rhythms of knowledge exchange.

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Acknowledgments

We express our gratitude to the Northwestern Band of the Shoshone Tribal Council for their support of this work. Daigwade (daigwade.org) is a collaboration between the Northwestern Band of the Shoshone Nation and Utah State University. This material is based upon work supported by the National Science Foundation under Grant No. 1943630. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.