

Cooperative Extension in Indigenous Communities: Characteristic of Successful Programs

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Abstract

The mission of Land Grant Institutions (LGIs) and Cooperative Extension has always included the concepts of educational access and inclusion, but not all communities have equitable access to Extension programs. Specifically, Extension is currently only serving about 10% of Indigenous communities. Given the complicated history of Indigenous land dispossession that created LGIs, it is imperative that Indigenous communities have equitable access to the benefits of Extension's educational and agricultural programs. Despite these challenges, there are 1862 Extension educators that collaborate with Indigenous communities. Through a transformative convergent mixed methods study, I investigated the Western Region of Extension to learn about the characteristics that help to make Extension programs in Indigenous communities successful. The interviews and survey responses revealed these characteristics, including centering the community's goals, having an Insider Collaborator, and creating culturally relevant programming and pedagogy. From the findings of this study, my participants and I co-constructed implications and recommendations to help make these programs successful and provide equitable support to Indigenous communities.

Keywords: Extension; Indigenous communities; decolonizing methodology; culturally relevant pedagogy

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Introduction

The mission of Land Grant Institutions (LGIs) and Cooperative Extension has always included the concepts of educational access, to “teach agriculture, military tactics, and the mechanic arts as well as classical studies so members of the working classes could obtain a liberal, practical education” (APLU, 2018). Indeed, there is an Extension office in or near all of the 3,000 counties in the US (Hiller, 2005) and serving nearly 100% of US counties (Brewer et al., 2016). However, Extension has not served all communities equitably, in both their access to agricultural resources (Brewer et al., 2016; NCAI, 2010) and in the kinds of programs that they provide (Emm & Breazeale, 2008).

An important example of these inequities can be seen in Indigenous communities, where Extension offices can only be found in less than 10% of communities (Brewer et al., 2016; NCAI, 2010). Complicating this situation is the history of Indigenous land dispossession that created LGIs and still accounts for much of their wealth accumulation today (Stein, 2017). The forced removal of Indigenous communities from their land not only allowed colonists to use and sell it as their own, but also dislocated the communities from their traditional agricultural and food systems. In order to overpower Indigenous communities, colonists used, in part, assimilation through agriculture and alienation from traditional foodways (Dunbar-Ortiz, 2015; Harris, 2004; Knobloch, 1996). The

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inequitable access to the education services of Extension continues the violence of land dispossession and makes LGIs complicit in the continuation of this colonial ideology (Brayboy, 2005; Stein, 2017).

Extension in Indigenous communities is underfunded and unable to provide equitable support. Despite these challenges, there are 1862 Extension educators that collaborate with Indigenous communities. In addressing these systemic issues in Extension, I ask the following research question: What characteristics of Extension programs help them to successfully serve Indigenous communities? I investigated the Western Region of Extension through a transformative convergent mixed methods study. Because of the large area and associated complexity, I used a survey to gain an overview of the existing collaborations. To more deeply understand specific examples, I also interviewed educators from 1862 LGIs that collaborate with Indigenous communities. The interviews and survey responses revealed the characteristics that make programs successful including centering the community's goals, having an Insider Collaborator, and creating culturally relevant programming and pedagogy. From the findings of this study, my participants and I co-constructed implications and recommendations to help make these programs successful and provide equitable support.

Literature Review

Extension Programs in Indigenous Communities

The programs that Extension facilitates in Indigenous communities are varied and often depend on the community's needs. These can range from traditional Extension programs such as 4H and SNAP Education, to programs that are more community- or educator-specific, including literacy programs, obesity and opioid misuse programs, STEM education programs, and programs designed to address specific agricultural issues in their region such as native plant education. Further, educators working in Indigenous communities have often adapted their programs to address issues of food sovereignty, traditional foods, and food preservation techniques that are culturally relevant and important for their community development (Hartmann, 2021).

Papers regarding the inequitable access to Extension services have been written, including how the authors have attempted to right those inequities through program creation. Hassel (2004) discusses three examples of programs designed to address nutrition, food, and health aimed to be cross-cultural in their epistemologies, specifically Indigenous knowledge and Chinese medicine because of the epistemic disconnect between underrepresented communities and the University. Participants expressed distrust of the LGI because they felt that their knowledge was undervalued if it did not fit within a "scientific model." Also, Hiller (2005) calls attention to the inequitable access to Extension that Indigenous communities face by investigating the history of Extension's involvement in Indigenous communities, how Extension is currently being done in Indian Country, and includes a call to action to right these inequities.

Some authors recognized that changes would need to be made to traditional Extension programming in diverse communities. Emm and Breazeale (2008) discuss how Extension models need to be modified to meet the social, cultural, and economic conditions of the program participants, including Indigenous populations. To investigate this, they conducted a needs assessment of their nearest reservations to enhance programming efforts. From the assessment, they were able to prioritize the issues that most concerned the communities, including unemployment, alcohol and drug misuse, preparing youth for work, reservation laws, and lack of recreation for children. Martenson et al. (2011) also recognized that their programming would need to adapt to the concerns of their communities. In response to this, they created a Task Force to increase Extension's work in Indigenous communities. They met with staff and administrators from the 1994 Tribal Colleges, organized listening sessions with community members, and surveyed Extension personnel to see what

they would like to learn about in relation to collaborating with Indigenous communities.

Extension's research regarding programming in Indigenous and other diverse communities is scarce and a revitalization of these efforts is warranted. It would be useful for educators to better understand what kinds of programs are being done successfully with Indigenous communities to lower the barriers for new programs to begin. Also, a deeper understanding of pedagogies that could be used in Indigenous communities, both in theory and in practice, would be useful to educators as well.

Pedagogies: Culturally Relevant, Indigenous, and Decolonizing

Various forms of pedagogy have been proposed to teach students from different racial, cultural, economic, and historical backgrounds by taking their intersectional identities into account inside and outside of the classroom. While explanations of these pedagogies and their important components fill many textbooks, the ones of particular interest here are culturally relevant pedagogy, and Indigenous and decolonizing pedagogies. Indeed, participants identified creating culturally relevant programs and pedagogy as an important part of successful programs.

In order to understand the successes that teachers were having with Black students in their urban classrooms, Ladson-Billings (1995) did a study that resulted in her idea of *culturally relevant pedagogy*. In response to many studies that, in her opinion, cast Black students as, "deficient and closely associated with terms such as *at-risk*, *disadvantaged*, and *underachieving*;" she decided to conceptualize Black students as "agents in the classroom worthy of both study and emulation" (Ladson-Billings, 2014, p. 76). This was building on foundational pedagogical work that resisted deficit thinking in the 1960s-1980s, in which students that deviated from the "norm" of White, middle class culture were considered "different" and problematic (Schmeichel, 2012). These studies recognized the cultural and linguistic practices of marginalized students as resources to be appreciated and incorporated into the classroom (Paris, 2012).

Since then, other scholars have expanded and added to the idea of culturally relevant pedagogy by adding new dimensions. This expanded understanding is valuable because it recognizes that cultures are dynamic and change over time. These added dimensions include recognizing the impact that race and racism have on schooling (Brown-Jeffy & Cooper, 2011), the impact of the intersectionality of race, class, and gender on teachers (Dixson, 2003), and how culturally relevant pedagogy can be used in the context of Indigenous education and sovereignty (Brayboy & Castagno, 2008; Klug & Whitfield, 2003). Additionally, scholars have expanded the ideas in culturally relevant pedagogy to the point of forming new pedagogies. For example, McCarty and Lee (2014) use the term *culturally sustaining/revitalizing pedagogy* in the context of educating Indigenous students, to incorporate the disappearing languages of Indigenous cultures and recognize their impact on knowledge formation. Further, they connect language revitalization to the importance of sovereignty and self-determination, in both its political and educational forms. Educational sovereignty incorporates not only language and culture, but also Indigenous epistemologies that have been silenced through colonization.

Scholars have also conceptualized Indigenous and decolonizing pedagogies that decenter Eurocentric ways of knowing and learning and center Indigenous epistemologies and voice. While some scholars use either "Indigenous" or "decolonizing" to describe their pedagogy and some use both, "Indigenous pedagogy" tends to include using Indigenous epistemologies in teaching, valuing Indigenous knowledge, and incorporating Indigenous culture (Battiste & Youngblood, 2009; McKeon, 2012), while decolonizing pedagogies focus on identifying how colonization has impacted educational practices and ideologies and reconstructing them through Indigenous counternarratives and culture

(Fellner, 2018; Pratt et al., 2018; Tejada, 2010). Concepts from both terms are common in many of the pedagogies described (Battiste et al., 2002; Denzin et al., 2008; Grande, 2008).

Theoretical Framework

This project was committed to practicing decolonizing methodology. Decolonizing research deconstructs Western research traditions by pushing researchers to evaluate ways of knowing, their legitimacy, and how our complex identities impact knowledge creation (Battiste, 2008). This implies problematizing the relationship between knowledge and power in postcolonial contexts (Jankie, 2004). Decolonizing research includes participant collaboration at all phases (Battiste, 2008; Mutua & Swadener, 2004) and must embrace the collaborative nature of Indigenous knowledge creation systems, and the connectedness between people, communities, and the natural world (Battiste & Youngblood, 2009; Cajete & Pueblo, 2010; Falcón, 2016; Latulippe, 2015). To strive for decoloniality in research, researchers need to work toward undoing existing practices and paradigms, while creating and rebuilding with these guiding principles.

Given the context and goals of this research, I applied a decolonizing methodology to my research design. The outcomes of this research are intended to benefit and promote the voices and self-determination of research participants by being participatory and committed to Indigenous community interests (Denzin et al., 2008). While the methods of research are a survey and interviews, both of which are prevalent in colonized, Western research, the methodology strived to be decolonizing, with an emphasis on counternarratives, the co-construction of knowledge with participants through their lived experiences (Fierros & Delgado Bernal, 2016), and the liberatory effects for Indigenous peoples. Decolonizing methodology and research on Indigenous topics has not been common in the *Journal of Agricultural Education* (Vicenti-Henio & Torres, 1998), though other critical methodologies which share similar epistemological tenets have been published more recently (Barajas et al., 2020; Cline, Rosson, & Weeks, 2020; Murray, Trexler, & Cannon, 2020).

Methodology

To answer the research question, I employed a transformative convergent mixed methods design. Because of the large size of the Western Region of Extension and the unique cultures, goals, and constraints found within it, combining quantitative and qualitative methods provided a more complete answer to the research question (Creswell & Plano Clark, 2018). This design also allows for triangulation and complementarity, making corroboration, enhancement, and a deeper illustration of findings possible (Onwuegbuzie & Leech, 2006).

Transformative design is a distinct form of mixed methods design that highlights the importance of value-based, action-oriented research, that directly engages members of diverse groups with a focus on social justice (Mertens, 2010; Mertens, 2011). This often includes theoretical perspectives, such as feminist or critical, that can then be laid over the design elements of the study (Creswell, 2009; Creswell & Plano Clark, 2018). In this study, I used decolonizing methodology as the theoretical frameworks overlaid on the mixed methods design. Transformative design is collaborative and participatory, allowing for an overlap with decolonizing methodologies (Creswell & Plano Clark, 2018).

My co-author (Michael) and I (Katherine) both hold intersectional identities that pertain to this work. Michael is a white, male, agricultural education faculty member with experience in critical and qualitative research, as well as Extension education. I am a white, female, agriculture education faculty member, with most of my work being centered in critical and decolonizing research about equity in formal and informal education settings. Importantly, we are both employed by an 1862 LGI, have been

educated at 1862 LGIs, and have Extension responsibilities. The research design, data collection and analysis, and most of the writing was done by me, with Michael making some contributions to the analysis and discussion.

The Western region of Extension encompasses 13 states (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming), American Samoa, Guam, Micronesia, and the Northern Mariana Islands. After creating the survey, I contacted State Directors and asked them to distribute the survey to all Extension personnel in their state. For the interviews, sampling was a mixture of convenience and purposive (Bazeley, 2020). I had a network of personnel from Extension that I knew, and I also asked every State Director for suggestions. Participants' specific locations, universities, reservations, and job titles have been removed from their quotes to protect their identities, and pseudonyms have been used. There were 307 responses to the survey, the distribution of which can be seen in Table 1, including the responses to Question 4. This is also how the data will be represented geographically in the maps that follow.

Table 1

Survey Responses by State

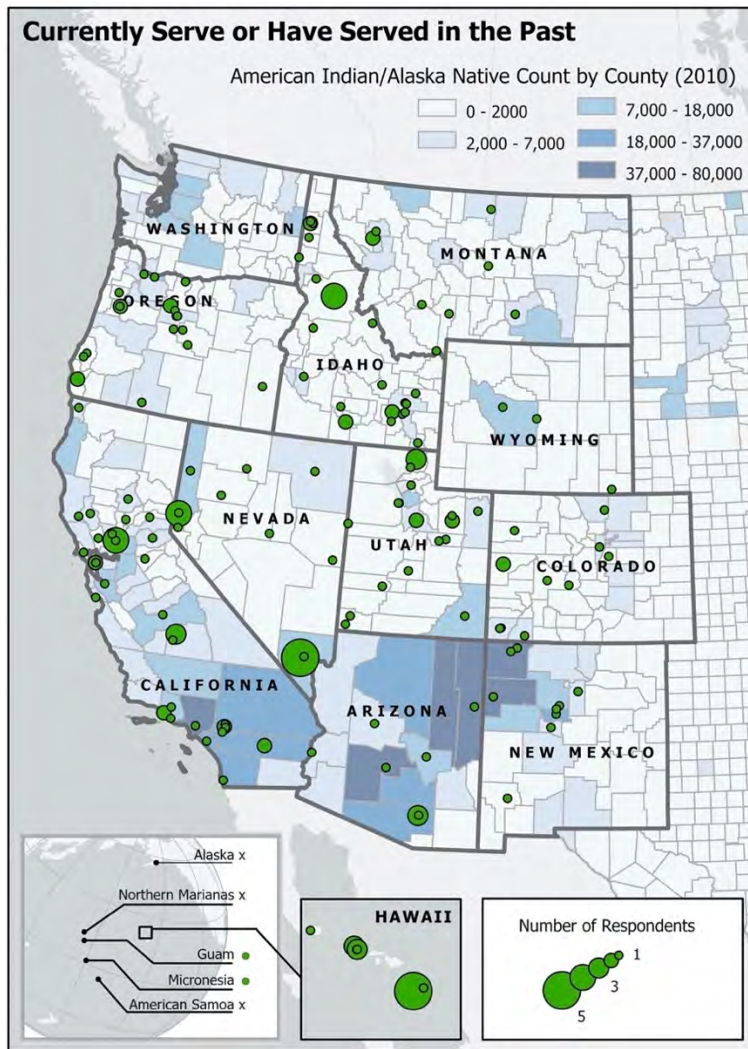
State/ US Territory	Number of Responses	Response Rate	Response to Question 4			
			Current	Past	Never-Yes	Never-No
Alaska	0	NA				
American Samoa	0	NA				
Arizona	13	2.56%	8	2	3	0
California	78	3.13%	22	18	35	3
Colorado	19	3.41%	4	7	8	0
Guam	1	1.29%	1	0	0	0
Hawaii	16	14.81%	13	2	1	0
Idaho	50	35.71%	19	8	20	3
Micronesia	1	3.03%	1	0	0	0
Montana	9	2.21%	7	1	0	1
Nevada	32	12.75%	9	9	14	0
New Mexico	10	30.30%	8	2	0	0
Northern Mariana Islands	0	NA				
Oregon	29	4.04%	18	5	6	0
Utah	42	28.00%	18	3	15	6
Washington	0	NA				
Wyoming	7	6.42%	3	0	3	1
Western Region	307	5.50%	131	57	105	14

Note. Question 4: "Do you currently or have you ever served Indigenous peoples or communities?" Respondents could choose one of three answers: "I CURRENTLY serve Indigenous peoples or communities," "I have in the PAST served Indigenous peoples or communities," or "I have NEVER served Indigenous peoples or communities." If they chose the third option, they answered, "Would you be interested in serving Indigenous peoples or communities?" to which they could have chosen, "Yes" or "No."

I mapped the survey respondents across the geographic region based on participants' responses to Question 4. To better situate these responses within their demographic context, I utilized demographic data for American Indians and Alaska Natives by County. This data is publicly available through the Race Demographics section of the 2010 US Census (data on Pacific Islanders and Native

Hawaiians was not data that could be applied from the Census). These maps were produced in collaboration with Sophia E. Linn at the Geospatial Centroid at Colorado State University (2020) and were created with ArcGIS Pro 2.4.1 Service Layers (Credits: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, OpenStreetMap contributors and the GIS User Community). Figure 1 shows the current or past collaborations, with demographic data.

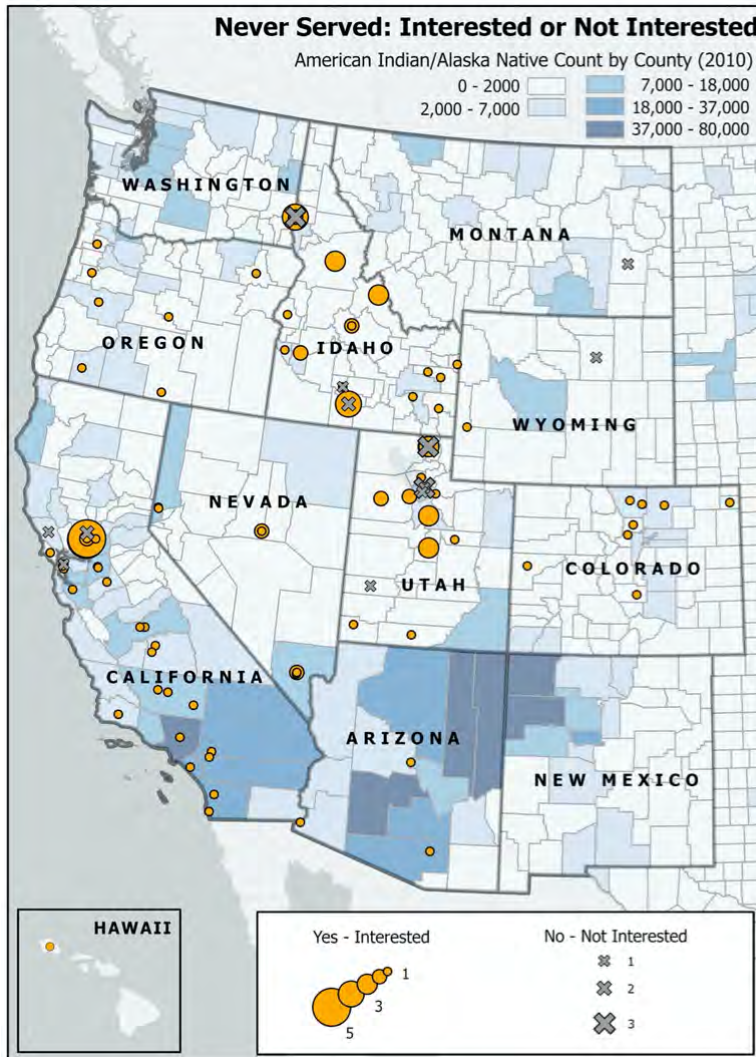
Figure 1
Map of Current and Past Collaborations with Demographics



Next, the respondents that answered that they had never collaborated with Indigenous communities and whether or not they would be interested in doing so are represented in Figure 2.

Figure 2

Map of Never Served: Interested or Not Interested with Demographics



I also interviewed 20 Extension educators from 10 states and one US territory, as displayed in Figure 3. From State Directors, I received 43 suggestions for educators to contact, resulting in a response rate of 46.5%.

Figure 3*Number of Interviews by State*

The interviews were conducted virtually due to travel restrictions associated with COVID-19, and they lasted between 45 and 90 minutes. The participants held different kinds of professional positions, had varying levels of administrative power, and were both Indigenous and non-Indigenous. These positions included County Agents, FRTEP Agents, SNAP Educators, Associate Director, Tribal Liaison, Specialists, and Advisors, including a STEM Education Specialist, Health and Wellness Specialist, and a Natural Resource Advisor.

I co-constructed 20 survey questions with the stakeholders of this work, but because of the branching structure of the survey, the most questions that a respondent might answer was 11 questions. The interview protocol was semi-structured, allowing the direction of the interview to evolve as the participants' experiences and perspectives directed them, with an emphasis on the mutual co-construction of ideas and researcher reflexivity (Fierros & Delgado Bernal, 2016). With permission from participants, the interviews were audio recorded and transcribed for analysis.

To analyze the interviews and qualitative components of the survey, I used thematic analysis (Bazeley, 2020; Braun & Clarke, 2006). I selected compelling examples and related the analysis back to the theoretical perspectives in order to form conclusions (Bazeley, 2020; Braun & Clarke, 2006). During all stages of this process, I included participants (Brayboy & Deyhle, 2000; Hallett et al., 2016; MacDonald, 2012) by giving them opportunities to provide feedback, including reviewing transcripts and findings, and collaborating on the discussion. The structure of these follow-ups varied between

participants, depending on their level of interest and time. Each participant received the same materials (initial draft of the findings for their review, copies of their transcripts as requested, etc.), but some participants chose to be very involved, and others less involved. Some added to their interviews, giving me additional detail or more current information, some offered further insights after reading other participant's contributions (with names and identifying information redacted), and others didn't respond at all. If and when participants had feedback and after our discussion, I noted those changes and added them to the manuscript. Also in keeping with these methodological commitments and in contrast to many Western research methodologies, participants' voices are included in the Discussion section; participants had their own analysis and recommendations in regard to the outcomes of this research.

Findings

When asked what makes collaborations with Indigenous communities successful, Extension educators explored the components for a successful education program. These included centering the goals of the community, finding collaboration with an Insider to the community, and creating culturally relevant programming and pedagogy.

Centering the Goals of the Community

Nineteen of the twenty interview participants spoke to the need to center the goals of the community when designing and implementing educational programs. Even when facilitating programs based on more restrictive models, such as SNAP Education or 4H, successful educators found ways to incorporate the goals of the community within the context of the programming. This is so important to James, an Agriculture and Natural Resource Agent and a Native of Guam, that he described it as central to his job and, in fact, the reason that he loves it:

I do what my clients tell me to do. When they ask me about something, I say, "Well, let me check on that." Extension does that to people. It leads you in a direction where you don't expect to be, and it makes you uncomfortable. That's why I like Extension work- I like being uncomfortable.

Because James centers the goals of his community, he is always learning as their needs and goals change. Randall, a County Agent, also communicated the same sentiment, "Especially among Native American peoples and tribes, don't tell them what they need. Let them tell you what they need. That is extremely important."

Survey respondents also commented on how centering the goals of their communities helps to make their programs successful. Twenty-seven of the 188 survey respondents that have experience collaborating with Indigenous communities made comments about this. For example, an Advisor from California said, "An important item is not trying to meet my goals, but let the tribes' goals and objectives run as the primary driver of the project," and an Extension Educator from Wyoming said, "Knowing their culture and listening to their needs comes first before program development." Both of these comments highlight the importance of asking what the concerns of the communities are before implementing programs based on the goals of Extension.

Unfortunately, traditional Extension programs often don't meet the social, cultural, and economic needs of the recipients, especially in Indigenous communities, where the effects of colonization are unique (Emm & Breazeale, 2008), so this attention to the community's voices is crucial. Karen, a County Director and former FRTEP Agent, alluded to this disconnect and how current Extension educators are learning to address it:

Colonizers would initially go in and they would totally take away their culture. And then, as we got a little more enlightened, we would say, "I'm from the university, and we're here to

help," but we never asked them what they wanted. In countries where they wised up and said, "We're from the university, what do you need help with?" And that took, you know, a century (laughs) to get to that point.

By understanding how colonialism impacted her community members, Karen gives context to the relationship that she has with the community and highlights the importance of centering their goals. Diane, a Regional Specialist, also discussed this historical, colonialist tension, "The most important thing is figuring out how to ask the questions, 'What is it that we can do to support your programs?'" It has to be driven by the people in the tribe because otherwise it's just White people saying, 'Here, we know best.' And, we don't."

In order to assess what a community needs, participants named a few ways they gather ideas. Some use advisory boards made up of members of the Indigenous community, some attend tribal meetings, some conduct formal needs assessments, and some have members of the community reach out to them directly. Jane is an expert in nutrition and identifies as Native. She discussed the process that she has developed to understand the needs of the community; not only does she ask them what kinds of programming their community needs, she also asked them what they saw as possible solutions to their issues:

We had community meetings, we interviewed people, and had in-depth interviews. Making sure that you do your part to get to know the community and see what the community thinks, is important for you to be determining the most appropriate way to address an issue. We found that a lot of the strategies that the communities had brought up, it actually aligned with best practices. The point of what I'm saying is that the community knows best.

Jane centered the goals of her community in the planning of educational programs, and also leveraged their knowledge to find solutions, showing respect for the voices and knowledge of community members.

Margaret also engages in discussions with tribal members to understand their goals, and with an eye towards to the future and the current issues that tribes face:

What does a 21st century relationship look like with a tribe? Some of the challenges that we're facing as a nation are issues around climate and how it's impacting the environment. If anything, the lessons we're learning from COVID is the need for rural broadband access, and tribal communities are at the center of some of those conversations. We're working to further those conversations about where and how are we going to move things forward.

Margaret highlights that Extension and Indigenous communities are partners in an ongoing and changing process of community development. As needs change and crisis emerge, Extension needs to reevaluate their collaborations with Indigenous communities to make sure they are keeping up.

While centering the goals of the community is an important practice for a programs' success, this is not without its difficulties. Both Clay and Jeff discussed the tension between their role as a content expert with "the best science" and working within a community with its own socio-cultural history. This can be a delicate balance for Extension educators to find, as Clay describes with an example of community concerns versus what he knows to be the cause of their issues:

As experts, do we have a responsibility to address things as we know them to be true versus addressing in a way that is responsive to community interest? As an example, the community cares about road dust, right? Then, we come in as a professional and say, "You know, that's actually not what's making you sick. What's making you sick is RSV." So how do you balance those things? That's why computers can't do what I do (laughs). I've always been in the camp that we have a responsibility to tell people things that are true. It's hard when you're going to a community and asking them what they're concerned about and they tell you something that isn't maybe what they should be concerned about. And that's, I mean, that's the job, right?

Clay is highlighting a tension for anyone serving a community in a responsive way- the balance between community concerns and an expert's opinion. Jeff also talked about the balance that he has learned to find over time by working in collaboration with the communities he serves:

As good as the science might be, it often is not the entire picture. I've also come to realize that sometimes the "best available science" ... We have to unpack that label and it's the best we have at the time. It's not the ultimate answer.

Jeff tries to find a middle ground between the "best available science" and the needs of his community by recognizing that expertise has limitations and compromises have to be made in a collaborative way. He summarizes what it means to collaborate with communities perfectly, "What we can do is work together to achieve solutions for this time, based upon what we know together."

Insider Collaboration

Half of the interview participants and eight of the survey respondents with experience serving Indigenous communities discussed how having at least one member of the Indigenous community on your team is valuable to assist in the planning, teaching, and implementation of the programming. Kent called these people, "a champion. Somebody that is on your side." Having an Insider was so crucial for a survey respondent, a 4H Coordinator from Utah, they said, "Having someone within the tribal community is the difference between succeeding and failing." This enabled the educator to ask questions and make the programming culturally relevant in a way that they wouldn't have been able to achieve on their own. The Insider was someone that the educators could get honest feedback from and that they could check-in with along the way. It also gave the educators semi-Insider status in the community and their programming legitimacy. For some participants, this was sometimes another Extension educator that had worked in the community for a long time, a member of organizations within the tribal government such as the school system, environmental and natural resources office, or the culture and heritage office, or the tribal administrator.

Jeff talked about how there can be distrust for Outsiders and that having an Insider on your team can help to overcome that distrust, "I had the benefit of being vouched for by somebody who had that relationship. You can't come in cold and say, 'I'm here from the university, I'm the expert, and I'm here to help.' You need people to serve as proxies for you that will say, 'Jeff's from the university and he's an old White guy, but he actually is here to help.'" Jeff includes the intersectional Outsider identities that he holds, including his race and his affiliation with the university, as barriers to overcome. Having an Insider involved can lower those barriers so that collaborations can continue. For another example, both Randall and Diane work closely with the K-12 Education Director for the tribe they collaborate with and have maintained that relationship for many years. Diane described their trusting relationship and her willingness to learn from the Education Director, "She's been gracious in helping me to understand the taboos, and the things that are okay within the tribe. It's like, 'Smack me in the head when I do something wrong.'"

Other participants hired Native or local people to work on projects with them in various capacities. Julie's team of FRTEP Agents are mostly tribal members; she said that this, "builds trust that they understand what families are going through, what community members are facing, and can offer solutions in a culturally appropriate, respectful manner." Similarly, Dave had a grant from the USDA to look into food safety in the community gardens that he helped the tribes in his counties create as part of their food sovereignty programs. As part of the grant, he sub-contracted one of the seven tribes to do the work, "Rather than having someone like me, who's not from the tribal lands and [University] doesn't necessarily have the best relationship historically with tribes, so I sub-contracted with the [Tribe] to do the work. I gave them the hunk of 25,000 bucks and they used one of their employees." Dave recognizes that he, as a university representative, wasn't the best person to evaluate the food sovereignty gardens for their food safety, so he hired someone from one of the tribes to do

the work.

Six survey respondents cited not having an Insider or the loss of one as barriers to program success. A Professor from Utah said, “The FRTEP program was never fully funded, so for many areas, there is not the local on-the-ground person that can facilitate programming. It is incredibly difficult, if not impossible, to do tribal related programming without someone with a lot of local connections and support.” A Professor from New Mexico talked about an experience they had working with a great Insider, and how their collaboration with the tribe changed after she left, “I had a colleague that was the Registered Dietitian in the community. She opened many doors for me to do programming. When she left, things have been harder to navigate.” Of the survey respondents with past collaborations, five of those programs ended because the Insider left their job and took the relationships that they had built with them, making it more difficult or impossible for the Extension educator to continue.

Culturally Relevant Programming and Pedagogy

Many successful educators either planned programming that was culturally relevant or adapted existing Extension programming so that it was culturally relevant. Fourteen of the twenty interview participants and 25 survey respondents talked about how they make their programs or pedagogy culturally relevant. They accomplished this in many ways, depending on the culture, values, and needs of the communities they were serving. For example, educators included Native stories in their programs, adapted existing programs to the specific contexts of their communities, and combined traditional and modern approaches to education.

Creating culturally relevant programming was community-specific, considering each community has its own cultural history. Emily made the point that Extension educators need to learn about the specific communities that they serve and not categorize all communities as the same, “Being sensitive to the cultural references is exceedingly important in delivering services to the Native American community... Not wanting to lock all Native Americans together in one pot. Understanding the nuances, working on understanding their cultural references.” This came up with participants in many forms including understanding how certain literary characters are perceived in different cultures, the importance of language in different cultures, and the different kinds of foods and diets practiced in different cultures.

Carrie, a FRTEP Agent, identifies as Native and has found success by both creating culturally relevant programming and adapting Extension programming to her community’s needs. She finds that incorporating culture in both modern and traditional ways makes sure that all of her students find connection. For example, she discussed her focus on leadership and combining traditional cultural elements with modern ones:

We focus on leadership with our 7-12 grade, and those are the things that they're seeing in [Tribal] Council, that they're ancestors were doing years ago, and fighting modern day battles, like land use, natural resources, environmental issues, drugs, alcohol. Giving them those skills to use their voice, to stand up for themselves, and get back to remembering who they are and where they come from.

The tribe that she serves has what they call the, “five core values: stewardship, membership, scholarship, guardianship, and spirituality.” Carrie sees overlaps between her tribe’s values and the values of 4H and Extension, so she uses those to make her Extension activities applicable to her community, “We can incorporate those five values into what we're doing, we can do any activity and make it relevant. Our five values fit almost perfectly into the 4H values. It’s just making kids into good citizens and good people.”

Many participants discussed their pedagogical approaches and how they deliver educational

material to Indigenous communities. Jane incorporates culturally relevant pedagogy into her online courses about nutrition by adapting the context in which she teaches. The science she presents is applicable anywhere, but the context and examples that she uses can be adapted to her students:

The way that we digest food is the same, but the things that we eat, the environments, and the access that we have, are all unique. Those basic things of nutrition are framed in a context that is relatable to students. When we talk about carbohydrates, we don't focus on pasta and white potatoes, we talk about rice, or our traditional staples like taro, sweet potato, and breadfruit. The context, the examples, and the case studies that we use, it's specific to our region.

Jane is teaching students the foundational knowledge that they need, but in a contextualized and relevant way. Also, Jane requires that students into their communities, apply their learning, and reflect on and share their experiences with classmates. This teaches them how to apply it in contextualized ways.

It isn't only Extension educators delivering classes that need to be culturally relevant; many educators engage with the community in the field. Jack works with tribes on native plant restoration and discussed the importance of understanding the culture of the communities that he serves through this story about consulting with a tribe about preserving oak trees:

A lady was talking about how the oaks are their people and are their ancestors. What do you do with an oak that is going to tower over your house or grow into your sewer line? Your arborist would come out with a chainsaw and chop it down, but she's talking about oaks as her people. What tools would I use trying to maintain the health of my people? They're different from, what tools I would use to maintain the health of a tree.

Jack's experience of his Western scientific worldview coming in conflict with the worldview of the Native woman that he describes is something that all Extension educators need to be mindful of, whether in a classroom or in the field. Further, Jack describes how what counts or doesn't count as "agriculture" differs between Western academics and the tribes that he works with:

One of the things that I've heard people talk about is that, "Native cultures didn't have agriculture." The counter to that is, "They were managing land and maintaining oak stands and wildflowers, they were doing a lot of work to maintain these spaces to be beneficial." It's not domesticating seeds, but it's still domesticating land. I'm on the same page as the tribes on that one. There are some tribal members who feel offended that people call them non-agriculturalists.

Again, Jack is describing an instance where Western and Indigenous worldviews are clashing in his work. He has embraced the Indigenous definition of "agriculture," but it is not difficult to imagine that Indigenous community members might not reach out to Extension to access the resources they deserve, given this disconnect and the devaluing of their traditional agricultural practices.

Survey respondents also described some instances when Indigenous epistemologies and practices didn't align with Extension's. A Program Coordinator from Utah said, "Tribes rightfully are not impressed with our white approach to natural resources management, and sometimes do not want to be involved in discussions," and a Livestock educator from Oregon said, "Many times I am told 'We are hunter gatherers, not farmers.' Why does America keep trying to make them farmers? Only 2% of our nation are actively farming." Extension educators of all kinds need to be able to allow for different epistemologies, practices, and values in order to serve all communities well.

The Extension educators in this study explored the components of successful education programs, including centering the goals of their community, having an Insider to collaborate with, and creating culturally relevant programming and pedagogy. Each of these components looked different for each educator depending on the community that they serve and their expertise. This allowed each educator to adapt and be creative to meet community needs.

Discussion

From these findings and the contributions from participants, recommendations emerged. First, many successful programs came out of educators' willingness to be in supportive roles, allowing the community to take the lead in both goals and programming. Dave, for example, described himself as a "resource" for the tribes when they needed his help solving a problem or implementing a new program. Danielle, a Health and Wellness Specialist, advocates for the community to lead the educational efforts as well:

I don't know how one would expect to have success without having local voices on the team, and not just once you have money and once you have a project design, but at the very beginning, so that the project is meeting the needs of the communities. We are just there as a backup to support and to write grants and those types of things, but that's all secondary to defining the problem and figuring out what would work best in the community.

She makes it a priority to provide support to Indigenous communities, flipping the traditional power dynamic, and allowing the cultural, social, and economic goals (Emm & Breazeale, 2008), epistemologies and knowledge (Hassel, 2004), and concerns (Martenson et al., 2011) of the community to take precedence. For Extension educators to successfully collaborate with Indigenous communities, particularly in light of tribal sovereignty and given the importance of centering the communities' goals, conceptualizing the educator's role as a resource and ally, rather than a leader, is important.

Another recommendation that emerged from this work is the importance of facilitating programs and using pedagogy that are culturally relevant. Cultural relevance varies from community to community, taking their specific goals, history, and culture into account. Educators that teach either formally or informally will need to be able to adapt their programs and services to be appropriate for the community that they are serving and to value their perspectives and epistemologies (Battiste & Youngblood, 2009; McKeon, 2012). Extension can support educators in this endeavor in two ways: (1) by providing curricula that is culturally relevant, and (2) by providing professional development opportunities for educators to learn how to adapt their programs to be culturally relevant. Both approaches are important because educators will need to feel supported with approved curricula and be able to adapt their programs depending on the specific needs of their communities. Not only does this empower educators with the tools they need to do this important work, but it also honors the Indigenous communities they serve by practicing decolonization, decentering Western practices (Battiste, 2008), including participant collaboration (Denzin et al., 2008; Mutua & Swadener, 2004), and prioritizing sovereignty (Brayboy & Castagno, 2008; Klug & Whitfield, 2003).

There is much future research that needs to be done regarding many aspects of this work. For example, this work mainly focused on Indigenous communities on reservations and in rural settings. This is by no means representative of where all, or even most, Indigenous people live. In fact, 70% of Native Americans and Alaska Natives live in urban settings nationwide (Lakhani, 2020). In reference to the differences between serving rural versus urban communities, Hannah said, "Native communities are everywhere! You can't classify everybody all together. Just recognizing that we say, 'working with Native populations,' that's a whole host of things." Jack also acknowledged that he, and Extension as a whole, doesn't reach all Indigenous communities well, including those in urban settings and those that belong to tribes that are not federally-recognized:

There's people in tribal communities who are working and living in urban areas. Same thing with non-federally recognized tribes. They're tribal, they're definitely a meaningful community, they have some similar issues, but they don't have a federally recognized tribal government, they're not a federally recognized sovereign Nation. I'm not sure how to reach them, how to figure out what their needs are, what kind of programs you can partner on.

All of these possibilities for tribal government organization will have an impact on how Extension, as a federal program, interacts with the tribes in their state. Future research will need to investigate the promising practices and barriers to working with Indigenous communities in urban settings as well as those with various kinds of sovereign status.

Extension is not serving all communities equitably, including Indigenous communities. Given the history of colonialism that created LGIs and the alienation from traditional foodways that Indigenous communities experienced, equitable access to Extension services is a moral imperative. Extension educators can be successful in their collaborations with Indigenous communities by offering programs that are centered on the communities' goals, include an Inside Collaborator and are culturally relevant in both their programming and pedagogy. While this work presents challenges and may require some additional support from Extension administration, it is important that Extension adapt to be able to include all communities in their educational programs.

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