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**Perspectives on relationality in online Indigenous language learning**

Courtney Tennell  
University of Oklahoma

Kari A. B. Chew  
Independent Scholar

### **Abstract**

This study focuses on perspectives and experiences of Indigenous community members who have either created or are in the process of creating computer-assisted language learning courses for Indigenous languages and how these community members center relationality in the creation of the courses. We engaged a decolonizing and relational methodology to document Indigenous language courses and co-create knowledge with Indigenous language course creators. We conducted qualitative interviews with creators of 11 asynchronous Indigenous language computer-assisted language learning courses to learn how these creators enact relationality and cultural values in online language courses. From analysis of these interviews, five key themes emerged related to: (a) language planning; (b) partnering with technology providers; (c) Indigenous expertise; (d) decolonizing praxis; and (e) relational epistemologies. The researchers share ways that communities can center relational epistemologies when creating their own computer-assisted language learning courses.

**Keywords:** computer-assisted language learning, cultural values, decolonizing research, Indigenous language revitalization, language planning, relationality

### Perspectives on relationality in online Indigenous language learning

Chokma, saholhchifoat Kari A. B. Chew. Chikashsha sa'yacha Chikashshanompa' shaalili. Hello, my name is Kari A. B. Chew. I'm a citizen of the Chickasaw Nation and a Chickasaw language learner-educator.

ᎠᎩᎠᎩ, Courtney Tennell. ᎠᎩᎠᎩ ᎠᎩᎠᎩ. ᎠᎩᎠᎩ ᎠᎩᎠᎩ ᎠᎩᎠᎩ. ᎠᎩᎠᎩ ᎠᎩᎠᎩ ᎠᎩᎠᎩ. Osiyó, Courtney Tennell daquadoa ale tsitsalagi. Agiwonihisidi alesqu tsalagi digigoliyedi diquowedodino degadeloa. Hello, my name is Courtney Tennell. I am a citizen of the Cherokee Nation and I am learning to speak Cherokee and to read and write the Cherokee syllabary.

Indigenous language reclamation is a decolonizing process (Leonard, 2017) to sustain languages as well as relationships between languages, peoples, lands, waters, Indigenous Nations to see their languages come back into daily use (Hermes et al., 2012). This study focuses on perspectives and experiences of Indigenous community members, in what is currently the USA, who have either created or are in the process of creating computer-assisted language learning (CALL) courses for Indigenous languages and how these community members center relationality in the creation of the courses.

This research was motivated by Chew's experiences collaborating on Rosetta Stone Chickasaw (Chew et al., 2022) and the need she saw for resources to support Indigenous language course creators. While working as a professor, she invited graduate students Tennell and Melvin Calls Him Jr., who is Ponca and Muscogee, to contribute. The team engaged a decolonizing and relational methodology to document Indigenous language courses and co-create knowledge with Indigenous language course creators, including through interviews. From the experiences of spirits, and other beings (Hermes et al., 2023; McCarty et al., 2022). This notion of relationality is the "the heart of Indigenous ways of knowing" (Littletree et al., 2020, p. 410), in which relationships "do not merely shape reality, they are reality" (Wilson, 2008, p. 7). Indigenous language education, as a form of language reclamation, therefore entails more than teaching language and culture; it is about reclaiming relational ways of knowing, being, and doing. This commitment grows out of a movement for course creators who participated in interviews, five key themes emerged related to: (a) language planning; (b) partnering with technology providers; (c) Indigenous expertise; (d) decolonizing praxis; and (e) relational epistemologies. This article shares insights from Indigenous course creators about using CALL to create online spaces for Indigenous language education, and ways that CALL can support and advance language revitalization and reclamation movements.

#### CALL in Indigenous language education

Within a language reclamation framework (Leonard, 2017), Indigenous language education is a unique type of education that is grounded in the needs and aspirations of Indigenous communities, while also responding to settler-colonial efforts to extinguish Indigenous languages (Lee & McCarty, 2017; McCarty, 2021). It is "multifaceted, reflecting ... an intense commitment not to 'lose' the next generation ... and to strengthen intergenerational ties and cultural continuance through the ancestral language" (McCarty, 2021, p. 2). As an act of self-determination and resistance to linguistic oppression (McCarty & Watahomigie, 1999), Indigenous language education strengthens cultural identity and community well-being (McCarty et al., 2022; McIvor et al., 2009). For many communities, Indigenous language education is part of a long-term language revitalization project that takes place across settings. It includes school- and community-based educational initiatives and programs focused on the teaching and learning of Indigenous languages, as well as efforts

within homes to restore intergenerational language transmission.

Complementing in-person language education initiatives, many communities have used technology, including CALL, to create virtual spaces for language learning and teaching (Chew et al., 2023; Galla, 2016; Meighan, 2023). When creating CALL courses for Indigenous language education, Indigenous Nations may partner with popular language learning platforms to create language courses. Some popular platforms with Indigenous language courses are Duolingo, Mango Languages, and Rosetta Stone (Chew & Tennell, 2023). Most of these technology providers are for-profit companies, though notable exceptions are the non-profit 7000 Languages and small-scale platforms designed specifically for Indigenous languages (Chew et al., 2023). There are over one hundred Indigenous language courses across these platforms (Chew & Tennell, 2023). These CALL courses support Indigenous language education across settings, including homes, schools, and communities, as part of a long-term vision for language reclamation.

Computer-assisted language learning can benefit Indigenous language learning and teaching in myriad ways. The self-guided asynchronous learning environment enables learners to connect to the language at any time and from anywhere (Alexander, 2018), providing a sense of agency in language learning (de Bruin & Mane, 2016). Whereas one language teacher can only support a limited number of students at a time, a CALL course can support thousands of learners, some of whom may form their own language learning communities (Chew et al., 2022). In school settings, CALL can be integrated into curricula to supplement language instruction in Indigenous languages. Some Nations have partnered with public schools to offer credit-bearing world language courses based on CALL courses (Chew & Tennell, 2022). Computer-assisted language learning courses offer valuable opportunities for students to learn languages in situations where in-person classes are unavailable. With asynchronous modules, students can progress at their own pace (Alexander, 2018; Galla, 2016), guided by a facilitator, addressing the challenge of limited Indigenous language teachers. Indigenous language CALL courses have also been shown to support home-based family language immersion (Hermes & King, 2013). In this way, CALL courses support Indigenous language education across settings and as part of larger language initiatives.

### **CALL courses for Indigenous languages**

The following section provides an overview of some CALL platforms supporting Indigenous language revitalization.

#### **7000 Languages**

7000 Languages is a non-profit organization that supports language revitalization efforts around the globe through free online language courses. It has worked with community partners to create 72 courses in 38 languages. One partner, the Doyon Foundation, worked with 7000 Languages to develop courses for Alaska Native languages in its region, including Benhti Kokhut'ana Kenaga', Deg Xinag, Denaakk'e, Dihthaad Xt'een Iin Aandëg', Dinak'i, Dinjii Zhuh K'yaa, Doogh Qinag, Hän, Nee'aanëgn', and, most recently Iñupiaq.

#### **Duolingo**

Duolingo takes a gamified approach to learning in its language courses, most of which are for dominant languages. In 2018, Duolingo added its first Indigenous languages—'ōlelo Hawai'i and Diné bizaad—to celebrate Indigenous People's Day. While Duolingo relied on a crowdsourced course creation model in the past, it partnered with Kanaeokana—a network of over 100 Hawaiian culture, language and land-based organizations and schools, and Kamehameha Schools—a private school system in Hawaii, to create the 'ōlelo Hawai'i course and San Juan School District in Blanding, Utah, to create the Diné bizaad course.

Duolingo is free to use, with options to upgrade.

### **Mango Languages**

Mango Languages has courses for over 70 languages, including Indigenous and less-commonly-taught languages. The company supports language revitalization by offering Indigenous language courses for free. Among Indigenous language courses on the platform are Neshnabémwen language, created through a partnership with the Pokagon Band of Potawatomi Nation in Dowagiac, Michigan, and *CWY ʂʉhʂoʂɔ* (Tsalagi Gawonihisdi), created through a partnership with the Cherokee Nation in Oklahoma and Tulsa Public Libraries, in Tulsa, Oklahoma.

### **Memrise**

While none of Memrise’s official language courses for English speakers focus on Indigenous languages, the platform has many Indigenous language courses created by individual Memrise users. Referred to as community-created courses, users can upload their own language content to a course for free. Some of these courses were created by tribal language programs. These include Neshnabémwen, created by the Citizen Potawatomi language program, and *Nəmṁ Tekwapṁ*, created by the Comanche language program. At the time of writing, the Comanche language program was working to develop a 7000 Languages course based on their Memrise course.

### **Rosetta Stone**

Rosetta Stone offers 25 courses in commonly spoken languages. Additionally, through its Endangered Language Program, it has partnered with Indigenous Nations to create courses for Indigenous languages, including Chikashshanompa’, Diné bizaad, Inuttitut, varieties of Iñupiaq, Kanien’kéha, and Sitimaxa. The most recent Indigenous language course is for Ojibwemowin, created in partnership with Mille Lacs Band of Ojibwe in east-central Minnesota.

### **Learning managements systems and other CALL tools**

Indigenous communities also use other CALL tools to share language. Both the Citizen Potawatomi Nation, and the Osage Nation in Oklahoma, were working to deliver language through a learning management system. Because online courses on some platforms can be cost prohibitive to create, the Osage Nation decided to instead create a suite of interconnected language learning tools to comprise the first Osage Nation metaverse. Projects include an immersive classroom, media, and virtual reality.

### **Methodology and methods**

Our research team is based in Oklahoma, represents Indigenous Nations in the state—Chew is Chickasaw, Tennell is Cherokee, and Calls Him is Ponca and Muscogee—and has a deep commitment to our languages. It was important for us to engage a decolonizing and relational methodology to guide our work together and with others. Part of invoking a relational research methodology is finding balance between “the particular world of our local and regional context and within the general realm where [Indigenous Peoples] have shared understandings of relationships” (Wildcat & Voth, 2023, p. 479). As we worked to document Indigenous language courses, analyze them for examples of centering relationality, and co-create knowledge with Indigenous language course creators, we considered our relational accountability (Wilson, 2008), to one another, our region, and language revitalization movements broadly. We took steps, for example, to ask all 39 Indigenous Nations in

Oklahoma about their use of technology to support language revitalization before expanding our review of language courses nationally and globally (Chew & Tennell, 2023). We also worked to build relationships and co-create knowledge with course creators, such as through a public webinar event and invited forum (Chew, 2022). Part of the knowledge co-creation process was a series of interviews with Indigenous language course creators. The findings of these interviews are the focus of this article. We have published a separate article focused on our review of language courses (Chew & Tennell, 2023) and our full project is shared in an open-access guide (Chew, 2022).

Interviews were important to our research because they helped us gain insight into course creators' decision-making processes. Between January and May 2022, we completed nine 1-hr interviews with twelve course creators (Table 1), whom we identified from our course reviews. Our interview protocol, which included informed consent, was approved by the University of Oklahoma's Institutional Review Board. We organized interview questions into three parts, focused on creators' backgrounds and initial involvement with the course, course creation process, and reflections on the experience. Course creators had the option to be identified by their actual name, a pseudonym, or a general label such as "language teacher." As part of our relational methodology, we transcribed interviews and then shared them with the course creators for review and feedback. This step gave interviewees the opportunity to confirm that their words were accurately represented. Following this approval, Chew and Tennell engaged in a "close reading plus judgment" of all transcripts to identify meaningful passages and ideas (Seidman, 2006, p. 117). We then met to compare notes and identify key themes emerging from this initial analysis. Next, we returned to the transcripts to confirm these themes and organize experts from interviews under them. The themes are discussed in the following section.

Table 1: Interviews

<b>Name(s)</b>	<b>Course/Project</b>	<b>Affiliation</b>	<b>Date of Interview</b>
Makana and Manuwai	Duolingo Hawaiian	Kamehameha Schools	January 12, 2021
Justin	Memrise Potawatomi and LMS	Citizen Potawatomi Nation	February 9, 2021
Emily (pseudonym)	Duolingo Navajo	university student	February 17, 2021
Anton	Rosetta Stone Ojibwe	Bemidji State University	February 25, 2021
Allan	7000 Languages courses for Alaska Native languages	Doyon Foundation	March 11, 2021
Rhonda, Carla, and Kyle	Mango Languages Potawatomi	Pokagon Band of Potawatomi	March 28, 2021
Roy	Mango Languages Cherokee	Cherokee Nation	April 6, 2021
Kate	Memrise Comanche	Comanche Nation	April 25, 2021



language teacher	Osage LMS and other projects	Osage Nation	May 12, 2021
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### **Themes emerging from course creators' experiences**

Themes emerging from course creators' experiences included: (a) language planning, (b) partnering with technology providers, (c) Indigenous expertise, (d) decolonizing praxis, and (e) relational epistemologies. Each is discussed below. Notably, some themes are closely related and even overlap. For example, we consider enacting relational epistemologies to be part of decolonizing praxis.

#### **Language planning**

Course creators expressed that Indigenous language courses were part of long-term and hopeful community-based language plans, which are distinguished by “the agency of local people in language-related decision making” and setting goals and aspirations for the language (McCarty, 2018, p. 23). For many communities, language planning considered how both online and in-person initiatives could support language education (Meighan, 2023). For example, the Osage Nation’s constitution mandates support for language and culture and the Nation engages in strategic planning every 3 to 5 years to ensure that language needs are being met. When the Nation received Coronavirus Aid, Relief, and Economic Security Act funding during the Covid-19 pandemic, funds were immediately allocated to create a suite of language learning technologies. Relatedly, the Comanche Nation’s work to create a 7000 Languages course, train language teachers, and create language classrooms was part of a Decade of Comanche Language and Culture paralleling the UN’s declaration of an International Decade of Indigenous Languages (2022–2023). For Kate, a Comanche language course creator, this was important because “there’s going to be access to something that will encourage language acquisition for essentially perpetuity.” Course creators recognized that CALL courses had the potential to reach learners for generations to come, providing an enduring tool for language acquisition and perpetuating the revitalization efforts.

To increase the long-term utility of Indigenous language CALL courses, they were designed to serve multiple purposes within language plans. CALL courses were designed to support individual adult learners, especially those living in diaspora or who otherwise may not have access to in-person learning opportunities. Not only did courses reach people who might otherwise not have access to the language, they also encouraged diasporic citizens to return to the community. For the Duolingo Hawaiian course creators, their course was an invitation to diasporic community members to come home to Hawai‘i. An Osage language teacher echoed that online programming was a way to spur a migration of Osage people “back home towards the reservation,” as a vision for Nation building (Garcia et al., 2022). In addition to diasporic learners, courses also served beginning learners living in their communities by helping them to establish a foundation in the language before taking part in intensive in-person programs like Mentor- or Master-Apprentice. Course creator Roy explained that the Mango Languages Cherokee course helps “bridge the gap” by preparing learners to enter the Nation’s Master-Apprentice program, which is creating new adult speakers of the language.

Schools are also important sites for Indigenous language education (Chew & Tennell, 2022), and the creators of the CALL courses recognized the significance of their courses in a school setting and in teacher preparation. Courses were designed to address the challenge of finding highly proficient speakers to go into classrooms by creating a curriculum that could be facilitated by teachers who may not be proficient in the language. This allowed for wider implementation of the courses in educational institutions and contributed to the revitalization of Indigenous languages in school contexts. Additionally, certifying the online courses with a

State Department of Education provided allowed the courses to count as credit toward graduation for students, further integrating Indigenous languages into the education system. The courses also supported materials creation for language learning spaces by digitizing resources such as vocabulary, grammar, stories, and cultural content. This contribution to long-term preservation ensured that valuable linguistic and cultural knowledge was recorded and accessible for future generations. The creators recognized the significance of their courses in reaching learners for generations to come, ensuring the futurity of language acquisition and revitalization efforts.

### **Partnering with technology providers**

To create CALL courses for their languages, Indigenous Nations and organizations may partner with technology providers. Selecting the most appropriate provider, based on factors like cost and platform features, was a vital initial step for creators. The cost to create a course varies, with some providers offering services for free and others charging large amounts. Funding, often through grants or the Nation's government, is crucial, as even low-cost options have expenses for personnel. Course creators further considered whether providers offered certain features, such as the inclusion of videos or voice recognition technology. Kate emphasized voice recognition's significance for new learners in the Comanche course, noting its ability to "mitigate some of that trauma that all of us have experienced in our community with, you know, 'you're not saying that right.'" While course creators weighed their decisions carefully, not all technology providers were consistently accepting Indigenous language projects. The course creators from the Pokagon Band of Potawatomi recalled reaching out to several technology providers before receiving a response from Mango Languages, who was open to working with a small community.

Agreements regarding data sovereignty, meaning Indigenous Nations have the "broad right to control" all "facts, knowledge, or information about the [N]ation and about its citizens, lands, resources, programs, and communities" (Rainie et al., 2017, p. 1), were critical to partnering with technology providers. When Indigenous partners negotiate agreements with technology providers, it is important to be clear about the First Nations Information Governance Center's First Nations Principles of OCAP®— ownership, control, access, and possession—over language materials and content uploaded to the course platform. Anton explained important aspects of the Rosetta Stone Ojibwe contract: "the band has the copyright [and] intellectual property rights, [and] can repurpose all of [the course materials]." Notably, while interviewees negotiated contracts with partners with attention to data sovereignty, 7000 Languages was the only technology provider to have a policy about Indigenous data sovereignty.

Through all aspects of development, course creators navigated the relationship with the technology provider. Technology providers sometimes assigned a linguist or other expert to a course project. The linguists had technical expertise but were often unfamiliar with Indigenous cultural protocols. Carla, who worked on the Mango Languages Potawatomi course, explained that initially this caused tension and that she and her team had to advocate to align their course with cultural and pedagogical values of their community. Over time and with the linguist's continued effort to learn, the relationship improved. The linguist "started to know us better" and anticipated what would work well for the course (Carla). Relatedly, the Duolingo Hawaiian team, finding that Duolingo's imagery was not culturally relevant, advocated to include images of cultural items like breadfruit and laulau (a traditional Hawaiian meat dish cooked in a leaf wrap). Duolingo agreed to include these images if the team had an artist create them to match with the company's brand style. The course creators agreed to the compromise, as including images of significant foods and plants fostered the relationship between learners and their cultural heritage.



### **Indigenous expertise**

The theme of Indigenous expertise pushes back on a dynamic that sometimes positions CALL providers as experts and Indigenous Nations as sources of content for courses. While the concept of *expertise* may not be well aligned with Indigenous epistemologies, we use the term to underscore the linguistic, cultural, and or field-specific knowledge and training of Indigenous course creators. While CALL companies bring experience about CALL and provide CALL technologies, they generally do not have the expertise or relational perspectives required to create an Indigenous language course. The contributions of Elders knowledge keepers and adult language advocates alike are essential to creating Indigenous language CALL courses. The Rosetta Stone Ojibwe project, for example, had a team of about 50 people with specific skill sets. Several team members had advanced training, even holding doctoral degrees in their fields, and deep knowledge of language and culture. Having team members with different skills, including speaking, reading, and writing the language, was important. Linguists assisted with structure and grammar and educators supported curriculum development. The guidance of Elders, whom Anton lightheartedly described as “Jedi Masters,” allowed for the inclusion of important cultural practices such as gathering rice or tobacco talks, ensuring the courses reflected the cultural values and practices of the community.

It was common for Indigenous course creators to take a team-based, community-driven approach to the course creation process. While course creation was often supported by multiple departments and or organizations within an Indigenous Nation, it was sometimes difficult to find those with the expertise needed to contribute to the course. The Duolingo Hawaiian course creators described their process of seeking out key team members who were both highly proficient in the language and skilled in linguistics, education, and other relevant fields. Each played a role in the successful creation of the course. For example, Makana and Manuwai described their colleague Maui as having a skill set that “none of us had” to move course content onto the Duolingo platform: “Maui was . . . able to follow through with anything that was developed [and] keep track of all of the things that were being dropped into the incubator. That was a really key piece” (Makana).

Course creators recognized that all community members had expertise to contribute. They considered ways to involve community members, across generations, and made efforts to include all generations in audio recordings, videos, and other course elements. One approach was to partner with schools. A notable example, the Navajo Duolingo course, a partnership with San Juan School district, was created through intergenerational knowledge sharing, led by youth. High school Diné bizaad students helped create the course as part of their class. One of the students, Emily, shared in an interview that the class helped plan course content during school and then sought further input from their families and Elders at home. The knowledge, wisdom, and cultural understanding within the community are essential for developing courses that are grounded in relationality and reflect the authentic language as spoken in the community. Community members, including Elders, linguists, educators, and cultural leaders, bring a deep understanding of the language and its cultural significance, enriching the course development process and fostering a sense of ownership and empowerment in the revitalization efforts.

### **Decolonizing praxis**

Course creators engaged in decolonizing praxis, envisioned as a cycle of critical consciousness, resistance, and transformative action (Smith, 2005). Raising a critical Indigenous consciousness means “(re)awakening to a cultural identity in which [one’s Indigenous] language is central” (Chew, 2019, p. 174). The Doyon Foundation’s process for

creating Alaska Native language courses on 7000 Languages began with a question: “What does it mean to be Gwich’in or Denaakk’e, a person from that particular language?” (Allan). Course creators considered how curriculum and pedagogy could support learners to strengthen identity through language. The Mango Languages Potawatomi course had a similar goal of “help[ing] create that transition from just saying you’re Potawatomi to actually having an understanding of what that means” (Rhonda). In this way, decolonizing praxis “is the imperative of Indigenous resurgence” (Goodyear-Ka’ōpua, 2018, p. 87), enacted through the emergence of new Indigenous language speakers who are grounded in a strong sense of cultural identity.

Decolonizing praxis entails resistance to “mainstream approaches to teaching and learning” (Styres, 2018, p. 32), which often exclude Indigenous perspectives. In several cases, the curriculum templates shared by technology providers with Indigenous partners emphasized learning goals for dominant languages, often related to tourism and business. Manuwai, who worked on Duolingo Hawaiian, pushed back on this template saying, “that is not the reason why we’re learning Hawaiian.” Instead of teaching how to purchase airline tickets or order a hamburger, the Hawaiian course creators focused on culturally significant activities. Some course creators also choose to address histories of colonization—including displacement from homelands and forced assimilation through boarding schools—and the need for intergenerational healing and return to language. Notably, the Mango Languages Potawatomi team saw the course creation process was an opportunity to reflect on their history and state of the language. They viewed the technology provider’s template as a space to envision new futures for the language. For example, while purchasing an airline ticket in the language may not be a common activity now, it may be in the future as language revitalization continues.

Transformative action moves beyond describing problems to ensure that change occurs (Smith, 2005). Some course creators focused on the potential of courses to create new language speakers. They recognized that it could take thousands of hours to become proficient in a language, so online courses help beginning learners build a foundation, even if they do not live in the community. Carla explained that the course is like a “fishing net” to catch new and committed learners and then support them to advance their learning through other programming. Roy affirmed, “We might have first language speakers again, so that’s the bigger goal of all this.” Others expressed goals of language reclamation as a social process attentive to community histories, needs, and aspirations (Leonard, 2017).

### **Relational epistemologies**

Grounding the course creation process in an Indigenous framework was a way to enact relational epistemologies, as part of decolonizing praxis. Course creators turned to intergenerational educational frameworks that already existed in their communities and applied them to online courses. In the case of Rosetta Stone Ojibwe, Elders insisted on “having Anishinaabe-inendamowin, a Native frame of reference for everything” in the course (Anton). Others similarly centered relational ways of knowing, being, and doing in their approaches to the courses. Kate envisioned teaching and learning Comanche within a framework of visiting in the language, saying, “That’s the Comanche way. We spend time together.” Focusing on the process of creating together, rather than the end product of the course, shifted focus toward “relationality and reciprocity” (Hermes et al., 2012, p. 396).

Course creators considered their relationships to future users of the online course, making decisions about how to teach people whom they may not know or meet. In Indigenous intergenerational educational frameworks, knowledge seekers, like knowledge holders, have responsibilities. Justin explained that language is a way for Potawatomi people to access the values that were “important to our ancestors and continue to be important to us

as traditional people” but that this knowledge is not shared all at once. The Citizen Potawatomi course framed lessons with prayers and cultural teachings. Each lesson, learners received a new line of the prayer to practice. When learners demonstrated a commitment to language learning, by progressing through new lessons, they also demonstrated readiness for cultural teachings.

While online courses can be powerful tools for sharing knowledge, course creators also had to protect sacred knowledge. The Citizen Potawatomi made creative use of a Learning Management System’s features to share Winter Stories in winter and hide them during other seasons when they are not meant to be told. Other knowledge was omitted entirely. Anton explained, “Some things don’t belong in a public source, so we didn’t do a unit on how to do a traditional Ojibwe funeral or the sacred legends for the medicine dance... For some things, people just have to go through the ceremony and to their Elders. They should turn to community and not to an online course.” Understanding that the course would be used by the public and community members, Mango Languages Potawatomi course creators decided to leave *breadcrumbs*—or small pieces of information related to certain cultural practices—that would inspire in Pokagon citizens “a hunger to seek out more” in community spaces (Rhonda). In this way, courses not only preserve and revitalize the languages themselves but also contribute to the enrichment of the cultural fabric of the community for generations to come.

### Discussion

As a type of Indigenous language education, CALL courses can make Indigenous language more accessible via technology, supporting community members to actively use the language in their everyday lives. Resisting the notion that language and culture can be separated and treated as discrete objects to study (Leonard, 2017), Indigenous course creators endeavored to reclaim and center relational epistemologies in their CALL courses. The work of course creators affirms that “technologies and humans that operate them are relational,” therefore creating “the potential for these technologies to evoke humanizing and liberatory participation” by those engaging in the virtual learning space (Rosenblum & Jacob, 2023, p. 10). Involving community members, especially Elders and first language speakers, enables course creators to center relationality and cultural values in courses, making them meaningful for learners.

Creating Indigenous language CALL courses that center relationality is a significant and long-term endeavor requiring commitment and sustained effort. Indigenous language course creators emphasized that a CALL course is not a silver bullet or immediate solution to language reclamation. As Roy explained, “There’s always a ... new technology and everybody’s like, ‘This is going to save the language,’ but it never has. That’s because [technology] is just a tool ... [Language reclamation] is still going to require community effort.” Creating these courses is “a huge undertaking” (Anton), characterized as “a marathon, not a sprint” (Kate). Because courses are often one piece of a more extensive language plan, a hope is that learners will be inspired to continue their language learning journeys by participating in other language reclamation activities.

We conclude with advice course creators offered to others considering CALL courses for Indigenous languages. Course creators emphasized the importance of taking initiative, finding the right technology providers and support, and creating a strategic plan to get started. A sense of responsibility to future generations and urgency to preserve Indigenous languages prompted course creators to advise others to “Go for it!” An Osage Nation language teacher encouraged others “to not hold back and to understand that you have a responsibility to your own people . . . to make sure for generations that your language is there.” Allan, noting that “for most Native languages, time is not our friend,” shared his advice: “Dream big and you’ll

scale things down as you need to, but just keep that passion alive and share that passion with others.” Overall, the insights and advice shared by these course creators on centering relationality in their courses offered valuable guidance for anyone embarking on the journey of language revitalization through CALL courses.

***Courtney Tennell** is a citizen of the Cherokee Nation and a doctoral candidate in the Department of Educational Psychology at the University of Oklahoma Jeannine Rainbolt College of Education. She is a Razorback-Sooner Scholar at the Zarrow Institute on Transition and Self-Determination. Courtney’s research focuses on Indigenous special education, postsecondary transition, and postsecondary transition resources provided to Indigenous students.*

***Kari A. B. Chew** is a Chickasaw citizen and Chikashshanompa’ learner based in the Chickasaw Nation. Engaging decolonizing methodologies, she researches pedagogies for Indigenous language learning and teaching, technology to support Indigenous languages, and Indigenous language in education policy. Kari works closely with the Chickasaw Nation on language education projects, including Chickasaw Rosetta Stone. She earned a doctorate in Indigenous Language Education and Linguistics from the University of Arizona and was a postdoctoral fellow with NETOLNEW “one mind, one people” at the University of Victoria.*

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