Language Documentation & Conservation Special Publication No. 27 (2022)
Voices: Perspectives from the International Year of Indigenous Languages
ed. by Sarah Sandman, Shannon Bischoff, and Jens Clegg pp. 136-154
http://nflrc.hawaii.edu/ldc/
http://hdl.handle.net/10125/74706

Towards an Indigenously-informed Model for Assessing the Vitality of Native American Languages: a Southern Arizona Pilot Project[1]

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1.0 Introduction

The American Indian Language Development Institute (AILDI) at the University of Arizona conducted a three-year pilot project (2016-2019) with the aim of documenting the vitality of the Indigenous languages in the state of Arizona. The general goal of this project was to devise and test a model for grass-roots assessment with the hope that this tool may serve as a working model to be shared with tribal communities throughout the U.S. and elsewhere. This project departs from traditional language documentation research in that it leads to the documentation of *language vitality*. With the help of Native American community-based researchers, a model of language vitality assessment was developed and piloted, creating a cohort of community researchers with training in five key areas: research protocols, assessment design and implementation, data collection and management, best practices in data storage and use of

[1] The research reported on in this paper was made possible with a grant from the National Science Foundation (NSF-NEH DEL BCS #1601738) awarded to Tyler Peterson (PI) and Ofelia Zepeda (Co-PI). We would like to acknowledge the tribal organizations who either explicitly or implicitly supported the endeavors of the project and their tribal members by allowing them to participate in the various training opportunities (workshop, symposia, etc.) planned as part of this grant, and to share the experiences and data the collected in their respective communities: Ak-Chin Indian Community, San Carlos Apache Tribe, Tohono O’odham Nation, Navajo Nation – Cameron Chapter, Colorado River Indian Tribes, Gila River Indian Community, Hopi Tribe, Hualapai Tribe, Northern Cheyenne (Chief Dull Knife College). We also acknowledge the contributions made by our symposia participants, including Carrie Cannon, Sharon Wilder (Hualapai Tribe) Arvis Myron (Hopi Tribe); Luis Barragan (SRPMIC); Anthony Gray (Gila River Indian Community); Lerlene Peters, Velacita Lopez (Ak-Chin Indian Community); Elizabeth Ortega (Tohono O'odham Community College); Bernita Duwahoyeoma (Hopi Tribe); Beatrice Lee (San Carlos Apache); Amelia Flores (Colorado River Indian Tribes); Elrena Whitedirt, Adeline Spotted Elk (Chief Dull Knife College, Lame Deer, MT, Northern Cheyenne). This paper directly benefited from the input and comments from Julene Narcia (Ak-Chin Indian Community), Cordella Moses, Pamela Harvey (San Carlos Apache Tribe), Francina Francisco, Richard Pablo (Tohono O’odham Nation), Marilyn Reed (Navajo Nation), and Alyce Sadongei (University of Arizona). We would also like to especially thank Rolando Coto-Solano (Dartmouth College) for co-designing and co-teaching the university course as part of this project, and for contributing his knowledge and assistance to many of the workshop activities, as well as Susan Penfield (University of Montana), who, along with Ofelia Zepeda, formulated many of the core questions that inspired this project. Others who actively helped in expanding our knowledge include the students in our grant-funded course “Data Gathering Management, Synthesis and Use” (University of Arizona), and the participants at the *The International Year of Indigenous Languages 2019: Perspectives* held October 30 - November 2, 2019 at Purdue University Fort Wayne, Fort Wayne, Indiana.

assessment data for grant-writing, and the preparation and sharing of the results of their work with their member communities (tribal councils, etc.).

Another aim of this project was to broaden participation and empower the language activists who are undertaking language revitalization projects in their own communities. More specifically, a major goal was to work with community-based researchers to determine what question types are needed. In this aspect of the project, we considered our community participants as research partners, building bridges between, academia, Indigenous scholars, and community language workers to construct a model that is responsive to a community's unique language reclamation needs. In essence, we seek to transform the process of community-based language assessment.

Through a series of symposia, university courses, and workshops held at the University of Arizona, Tohono O'odham Community College, and the Salt River Pima-Maricopa Indian Community, we collaborated with many community partners, training them in the technical aspects of survey design, implementation, and data analysis. Our focus was less on the actual results obtained from this survey work, and more on the training and methodologies of documenting language vitality from an Indigenous and community perspective. Once equipped with these tools, our collaborators were then able to take the lead in designing the kinds of surveys that meet the needs of their respective communities, as well as taking on the training role for other community language activists. In this paper, we report on the results of this project, beginning with examining the historical backdrop for such an undertaking.

2 Background

In 1990, Michael Krauss, then the President of the Society for the Study of the Indigenous Languages of the Americas and Director of the Alaska Native Language Center, made a number of phone calls, reaching out to fellow linguists and community activists throughout the nation. The purpose of these calls was to gather a snapshot of the status of the Indigenous languages of the United States. The numbers he gathered contributed to the rhetoric of Indigenous language loss by calling attention to the growing concern of worldwide language endangerment at the time. Subsequently, in his testimony to the 1992 Senate Select Committee on Indian Affairs hearings to amend the Native American Languages Act of 1990 (NALA) to provide for a funding appropriation, Krauss stated that

> According to our best estimates, somewhere between 20 and 50 percent of the world's store of 6,000 languages are already no longer spoken by children… Of the 190 in North America, about 35 are exclusively in Canada, leaving about 155 Native American United States languages still spoken or remembered. Thus, at the rate things are going, of the present 155 languages, by the year 2020, 45 will be gone; by 2025, 60 more will be gone; and by 2050, 30 more... 135 of 155 languages are extinct. And will the remaining 20, too, be on the road to extinction? (Krauss 1992b; U.S. Congress Senate Committee. 1992, p.18-19).

Since then, Krauss' statement is often adapted and deployed for the purposes of acquiring funding for documentation and linguistic research on the Native American languages.

Given these developments, how do the language scholars and activists working within the Indigenous communities of Native North America interpret and respond to this enumeration of Indigenous languages focused on such stark language loss? Ofelia Zepeda, current Director of the American Indian Language Development Institute (AILDI), and participant in the original NALA efforts, recently noted that, until NALA, most Indigenous communities had not thought of their languages in terms of loss. Then, as now, Native Americans think of their community languages in terms of *vitality* and *continuance.* Thus, Zepeda explained, it has taken some time for Indigenous communities to understand and accept the NALA efforts and the implications of the statistics of *loss* that Krauss collected. Even though the NALA legislation was passed in 1992 and brought the addition of a grants program, under the Administration for Native Americans (ANA), the effect of federal legislation has taken a long time to filter down to the communities in a meaningful way.

The passage of NALA and the emergence of the ANA as a funding source for Native American languages did draw the attention of other funding agencies to the crisis of language endangerment. More federal funding sources ensued: the National Science Foundation (NSF) and the National Endowment for the Humanities (NEH) formed the Documenting Endangered Languages Program (DEL). Language-related programs also arose in the Native American Museum and Library grants within the Institute for Museum and Library Services and Tribal Heritage grants within the National Park Service. Private funding sources also increased: the U.S.-based Endangered Language Fund, the UK-based Foundation for Endangered Languages and the Endangered Language Documentation Programme at the University of London, to name a few. These efforts have certainly impacted the landscape of Native American languages, particularly in terms of research and documentation. However, since the passage of NALA, there has been little discussion about the impact of these efforts at the community level. We need to ask, what specific changes have taken place? How are these being realized? How are challenges being faced and how are solutions being shared? How are communities themselves addressing the loss? And, most importantly, how are such discussions understood in the Indigenous-preferred term of *language vitality*?

Answering these questions has led many to consider the need for a national assessment of Native American Languages (as evident, for example, in the a meeting convened by the Folklife Center at the Smithsonian Institution, September, 23-24, 2014). Those interested in this issue agree that it would be no easy task, as the diversity of communities makes the effort daunting. Nevertheless, such an assessment is sorely needed: the fact remains that there is no current systematic assessment of the Native American languages of the United States. Other countries have engaged in such national assessments: Australia began with the National Indigenous Language Survey (NILS) of 2005 which was assessing *language loss*, and counted the numbers of remaining first language speakers. It was followed by a second national survey in 2012 aimed at assessing language vitality, with a focus on determining the processes contributing to language growth within communities (Marmion, et.al, 2014). Other attempts at national Indigenous language assessments have been conducted in Mexico (Instituto Nacional De Lenguas Indigenas, 2005, 2014), parts of South America (Sichra 2009; Instituto Caro y Cuervo 2013) including the Amazon (Queixalós & Renault-Lescure 2000), and New Zealand (Statistics New Zealand, 2002; Te Puni Kokiri, 2008, 2008, 2013). SIL International has conducted many regional language surveys in various parts of the world as exemplified by Davison (1992) in Africa, and Grummitt & Masters (2012) in New Guinea. Most relevant to our purposes is the recent work in North

America including the Dene Knowledge Project (2007), work on the official languages of the Northwest Territories by Menicoche (2009), the Report on the Status of British Columbia First Nations Languages (2010), and two reports from the Inuit Circumpolar Council of Canada (2008, 2012).

With the exception of the Indigenous Language Institutes' survey of language *programs,* language *assessments* within the U.S. have been limited to surveys within specific communities. (Linn et al 2002). Under the ANA grants, communities are required to conduct an initial language survey, but the mechanisms and protocols are left up to each community to design and implement.[2] There are no general standards in place and no centralized data management plan to gather and manage data resulting from these surveys. These surveys are a crucial first stage in determining a community's preparedness and need for language planning and program development. The ANA does provide tribal communities with assistance in effectively utilizing this support toward successful and sustained efforts but, in the end, the outcomes only paint a very spotted map of Indigenous language vitality throughout the U.S.

Our project was further informed by more general discussions of both language assessment and language vitality (for example, Fishman 1991; Krauss 1996, 1998; Villalón 2003; Kalafatelis, Fink-Jensen, & Johnson, 2007; Nahas 2007; a.o.). While Krauss' statistics provided a clear and unquestionable picture of the dramatic loss of Indigenous languages more than 25 years ago, there has been no recent discussion of what has been gained. What we do know is that, in the U.S. context, there has been the passage of supportive legislation (the Esther Martinez Native American Language Preservation Act, 2006), the increase of agencies funding Indigenous language revitalization efforts and programs, the rise of community-based language programs across the country in Indigenous communities (Linn et al 2002), significant technological advances, and the increased training of Indigenous scholars and teachers in the field of Indigenous language documentation and revitalization, especially through summer school programs such as the Institute on Collaborative Language Research (CoLang), the Indigenous Leadership Development Institute (ILDI), Northwest Indian Language Institute (NILI), and others. Still, the accurate assessment and documentation of the status of Native American languages are both long overdue and timely.

Against this backdrop, we recognize the challenge of addressing the distinct assessment concerns and needs of individual tribal communities entailed in generating a national assessment. As such, we also argue for a bottom-up, grass-roots approach that will allow us to gather better data at the source: the tribal communities themselves.

2.1 What it Means to Document Language Vitality from an Indigenous Perspective

Krauss, too, recognized the importance of looking beyond language loss to the factors that contribute to language vitality. He noted that "…We need to assess the viability of [Native American] languages in terms of what I consider the most crucial factor, namely, are children learning these languages in the traditional way…?" (Krauss 1996, p.16). Assessing language vitality means considering not just the generation losing the opportunity to learn their community language as their first language, but the new generation(s) gaining a second language by learning their heritage language, and what role that language will play in the expression of their identity

[2] See examples from the Delaware Tribe of Indians (1997), the Cherokee Nation (2002) and the Seminole Nation (2010).

and culture. It means documenting the processes that contribute to language growth and strength in a way that gives an accurate reflection of how language loss is being addressed. Vitality assessment includes asking what salient aspects of language shift are taking place. It considers what cultural traditions are steadfast in the retention of the language. We need to understand how youth are accessing opportunities as well as negotiating challenges to this access and look at what new forms of language uses and domains are emerging among each generation**.**

AILDI has taken two steps toward determining the value of such assessments to Native American communities. First, AILDI received funding (NSF #1316698) to host a national conference (June 2013) titled "Revisiting the State of Indigenous Languages" where over 150 participants attended representing tribal groups, scholars, policy makers and students, including a significant number of participants from various regions from Sonora, Mexico, Alaska, California and Louisiana. The conference goal was to gather these Native American language speakers, educators, activists, students, linguists and others for reflection and dialogue, and to consider the effect that NALA has had on the state of Indigenous languages. This provided an opportunity to engage in a critical examination of the history of U.S. Indigenous languages, the existing documentation related to language vitality, and the methodologies used to assess it (or not). Among the outcomes was the recognition that, since the establishment of NALA, there is no 'silver bullet' to halt language loss or deter language shift. This workshop explored answers to the following questions: *What was the effect of the Native American Language Act of 1990 on the state of Indigenous languages? Has it brought about positive change? Are there more current statistics on the vitality of these languages? Where are and who are the next generation of speakers of Indigenous languages? Are there established 'best practices' for work with Indigenous languages today?* As a brief summary, there was an acknowledgement that the attention brought to the status of Indigenous languages was a significant achievement with the passage of NALA and resulted in significant breakthroughs in how to address the issue of language loss. There was also agreement that language communities had to embrace technology in order to ensure certain levels of success in language documentation and archiving materials for the future. Additionally, there was a recognition that high quality training of language practitioners is still needed, particularly in using technology for data collecting, documenting. What also stands out is the need for training: there was an overall awareness that expanding the role of youth in all areas of language work is critical in reversing language shift, as well as a need to involve more participation by elected tribal leaders in all language-related efforts. Conference participants determined that there has been a notable increase of *tribal* linguists and scholars entering academia whose influence is becoming evident in more regional and local training opportunities, more Indigenous language teachers and tribal language programs are being Indigenous-driven, and there is a marked increase in funding to support more culturally-relevant curricula development since the passage of NALA.[3]

Second, AILDI held three Arizona focus-group sessions: July 18, 2014 in Phoenix, July 23, 2014 in Tucson and September 19, 2014 in Yuma. These meetings brought together representatives from 16 of the 22 Arizona tribes to discuss their interest in participating in a statewide survey and to gather their thoughts on the need for a national assessment. These include Quechan, Pascua Yaqui, Yavapai (3 reservations), Apache (White Mountain and San Carlos), Hopi, Hualapai, Chemehuevi, Mohave, Tohono O'odham, Akimel O'odham (Gila

[3] The results of this conference are shared through the AILDI website (https://aildi.arizona.edu/), workshops and at the Pulima Conference in Melbourne, Australia (August, 2013).

River) and Maricopa (Salt River), Cocopah and Navajo. The structure of and questions raised for the meetings were modeled after the Inuit Circumpolar Council's project 2012), "Assessing the Vitality of Arctic Indigenous Languages Workshop." Participants were asked to consider the following relevant questions for discussion:

1. What are your/your community's experiences with language assessments?
2. What are your priorities regarding the use and development of a language vitality assessment?
3. What do you see as a benefit of a language vitality assessment?
4. How do we make sure that a national language vitality assessment would be useful and relevant to Native communities?

These discussions yielded insight on two points: first, a number of communities were or had engaged in surveys of their own (some of these were related to ANA funding and some to the voter-enacted Arizona initiative of "First Things First," a statewide early childhood program). Five communities attending these meetings shared their experiences with community-based assessment tools and strategies (Gila River Indian Community, San Carlos Apache, Ak-Chin Indian Community, Camp Verde Yavapai, and Hopi). Second, there was overwhelming agreement that a national survey was needed. However, while statistics may prove beneficial to funding agencies and some tribal communities and organizations, many of the participants felt they did not know how to make good use of such survey results. Input from these communities will inform framework development, the creation of assessment tools, and the needed information-collecting protocols. The attending tribes agreed that they would benefit from a statewide and national assessment in that they would be defined along the following four dimensions:

1. Give validity and integrity to efforts at the local level.
2. Lend support to more than just language efforts. The assessment could inform ongoing political struggles regarding land claims, tribal recognition claims, controversial issues over place names, The Native American Graves Protection and Repatriation Act (NAGPRA) and related issues of artifact ownership encoded in language and, of course, the need for more language-focused funding.
3. Document Indigenous perspectives in terms of defining the discourse around culturally distinct knowledge.
4. Provide comparative data collection that would lend itself to identifying very specific language issues that impact language and culture efforts, and assessing their efforts toward development and growth of language programs (aimed at both the documentation of Indigenous languages and specific pedagogical concerns).

The focus on language vitality calls into question just what type of survey tools can provide an accurate assessment. Traditional surveys have routinely asked some of the following questions in the form of hard-copy questionnaires: 'Was X your first language?', 'Do you read (write) X?', 'Do you speak X ?' 'Are you interested in learning X.' The required straight yes or no answer leaves room for sometimes vague interpretations, especially if the possible answer includes 'sometimes.' More targeted questions to get at vitality (Cherokee 2002; Chickasaw 2014) are sometimes posed on a Likert scale, producing answers over a range, from 'Disagree' to

'Completely agree.' This approach in the recent Chickasaw Nation survey asks, "Does someone who speaks Chickasaw have a chance of achieving their life goal?" and "Someone who speaks Chickasaw is better able to face life's hardships." Questions have become more refined with this scaled approach and are often placed in a cultural context to look at language use as in the Quechan Language Survey (Levy & O'Neill, 2012). Such questionnaires are often administered or coupled with personal interviews conducted door-to-door, a most effective approach in small Indigenous communities.

2.2 Toward an Indigenous-driven collaborative effort

In developing this project we considered our community participants as research partners, building bridges between the Indigenous scholars and community language workers to construct a model that is fluid, inclusive, revealing and more accurate that other models tested to date. As we sought to transform the process of community-based assessment, our aim was to explore and test new approaches in collaboration with our project participants. While the struggle to document and sustain endangered US Indigenous languages is heavily informed by scholars, much of the real work happens at the grass-roots level, within communities. However, the dynamics of work with and within community language efforts are sometimes complicated by cultural and political situations that challenge and even create obstacles to effective and sustainable outcomes. Building an Indigenous team of scholars and community-based researchers, with well-targeted outcomes that will benefit all audiences, ensured the success of this project. We report on these in the following sections.

3 Language Vitality in Southern Arizona: a Pilot Project

The planning of this project was done in close consultation with our community partners by holding focus-group discussions, hosted by AILDI, with 16 of the 22 tribes in Arizona and beyond. The main take away from these meetings was the identification of the need for a multi-faceted and fluid model that considers community differences, while at the same time setting clear standards for assessment. Most of our project activities were carried out at the The University of Arizona (UA), the institutional home of AILDI, has been a leader in establishing training opportunities for Indigenous language teachers and scholars in that it hosts both AILDI and the Native American Languages Master's degree program (NAMA), which serves native and non-native students who focus their studies on Indigenous languages. As well, the AILDI founders, themselves, were instrumental in advocating for NALA and continue to be active in shaping Indigenous language policy and advocacy. With these extensive connections and a cohort of well-trained community researchers to draw on, AILDI was in a unique position to construct an adaptable assessment instrument that takes into account community variation while still maintaining a core set of guidelines for communities to follow. Additional community training activities which were planned as part of the (and described below) were held at the Tohono O'odham Community College and the Salt River Pima-Maricopa Indian Community. It was in these settings that we were able to maximize the involvement of local community language activists.

3.1 Basic design principles and questions

This background informed the three main factors that highlight the significance of our project:

1. It is entirely Indigenous-driven and has been designed by Indigenous people and for Indigenous people.
2. It seeks to create a replicable model and a solid infrastructure that can be shared with other Indigenous communities
3. It will provide training in data gathering, management, storage, and use for participating community members thereby broadening participation that will place scientific methods of assessment into a culturally-appropriate model.

As such, we believe that our project represents the next phase of an Indigenous-driven collaborative effort to assess the native languages of the United States. The primary intellectual and practical challenges we identified lie in defining how to document the current numbers of speakers as one of the main features of language vitality. In view of the changes since NALA, it cannot be assumed that simply counting the number of remaining first language speakers is all that is entailed. The current landscape of Indigenous languages now includes a large cohort of second language speakers in many communities, who bring their own perceptions and expectations of the role of Indigenous languages in their lives.

The assessment infrastructure will be designed as a vehicle for documenting Native American language vitality that can be easily adaptable by communities. To accomplish this, the three-year pilot project in Arizona was conceived of quite differently from earlier survey work by Krauss and from that of individual communities in a number of significant ways. Specifically, we set out to develop a project with the following five design principles in mind:

1. *Language vitality:* focus on language vitality rather than only on the grim statistics of language loss
2. *Capacity building:* require rigorous training of community-based researchers
3. *Indigenous perspectives:* be guided by Indigenous scholars and community researchers who will rethink the use of common assessment tools (survey questionnaires, personal interviews) for Indigenous contexts
4. *Technology:* employ the latest technology (i.e. Google Forms, etc.), where appropriate, to deploy surveys and to process data
5. *Replicability:* Build a set of methods and models that can be replicated by tribal other communities

Attempting to understand and assess language vitality moves the research questions well beyond the enumeration of first language speakers. As such, we attempted to create innovative assessment tools that will help communities gain insight into the process of creating new speakers of the language. Studying language vitality includes the study of language shift; as such, our assessment asked: how can we track trends toward developing language proficiency among the members of the younger generation? We also sought to identify new domains of language and language use. There is merit in the development of the necessary infrastructure needed to do this: project conception, design of the training component, the choice of the actual assessment questions, and the strategies for implementation (network development,

technological applications related to data gathering and data processing). The infrastructure was designed to allow for the data to be updated regularly and maintained by the University of Arizona project team, student researchers, and AILDI program staff, while providing access to new information regarding tribal language and cultural communities.[4]

Secondly, we planned to address a common problem in past surveys by using innovative assessment tools. There have been some remarkable Indigenous-led advancements in this area (for example, the First Peoples' Cultural Council Language Survey, 2013). Nonetheless, researchers have noted (O'Grady p.c. 2014; Penfield and Flores 2000) that standard survey tools (questionnaires) leave room for vague and inconsistent assessment results. Those questioned often mischaracterize their use or understanding of the language. Early surveys asked, " Do you consider yourself fluent?" or "To what degree do you use/understand/speak the language?" More recent work tends to grade responses on a scale of perceived proficiency, requiring respondents to assess their own knowledge. In consultation with our community researchers, we attempted to develop a prototypical assessment tool which strives to reduce the possibility of mischaracterization of speaker skill levels.

Broader design features of the our project worked towards the development of an assessment strategy that is replicable for all Indigenous communities in the U.S. and beyond, a design for training of community-based researchers that focuses on the principles, practice and need for assessment as well as on data gathering, management, storage and appropriate use, and the collaboration of Indigenous scholars and community researchers in the entire project, from conception to completion.

4.0 Project Design and Activities, and the Focus on the Need for Training

This project is designed around two distinct foci: the first is to explore and evaluate what it means to document language vitality from an Indigenous perspective. The aim was not necessarily to *define* language vitality, but rather to explore this question in a constructive, informed, orderly, and meaningful way, guided by experts in language revitalization and community language activism. The second focus was to take this information and design a number of training activities that employ the latest survey, data analysis, and presentation techniques.

AILDI is the vanguard for training institutes of its type, having created a model for training, research, teaching and advocacy that has been replicated in a number of sister institutes across the nation and in Canada (see above). To ensure the success of this project, it was essential to have well-trained tribal researchers who can build and sustain a system of community-based networking. The workshop opportunities designed as part of this project brought the community participants to the UA campus and contributed to the goals of the project. The activities and results of these efforts are presented in the following sections.

4.1 Assessment Fundamentals Workshop

A fundamental feature of our project was to train community language activists in the state-of-the-art techniques for developing assessments and conducting community-based surveys. This was the primary goal of our inaugural workshop, which was to discuss the need for and structure

[4] See the permanent digital home of the project: https://aildi.arizona.edu/content/language-vitality-project

of the statewide language assessment, to establish the network contacts, and to provide training in the key issues facing community assessment efforts. Questions from a number of available surveys (see references) were evaluated and problematized for their potential use in the assessment of Indigenous language vitality.

The inaugural language vitality workshop was formatted as a symposium, held at the University of Arizona on May 19 and 20, 2016. The primary participants in the workshop were from Arizona tribal language programs that participated in the initial meetings to discuss the idea of piloting a language assessment. Also instructors, administrators and students from four tribal colleges (Blackfeet Community College, Dull Knife Community College, Dine College and Tohono O'odham Community College) were invited to attend the workshop. The tribal college representation was critical to test the feasibility of using the tribal college network as partners for the dissemination and implementation of a national effort. Ultimately, only two tribal colleges participated, Tohono O'odham Community College and Chief Dull Knife College. Later, the San Carlos Apache Tribal College joined the project via the tribal language program.

The workshop included a review of current assessment tools, team building and examining community-based survey strategies. Participants developed initial questions for language surveys and were introduced to aspects of data gathering. Discussion and hands-on exercises stressed the importance of designing a tool that is realistic and practical. The symposium was designed as an opportunity for collective brainstorming and round table discussions with tribal representatives engaged in language work rather than having formal presentations. The following topics (in no specific order) were discussed and explored in a workshop setting:

1. Sharing community experiences with language surveys
2. Re-thinking community survey strategies
3. Looking at other examples of innovations in language assessment
4. Developing templates/models of what the possibilities are for trying to capture language vitality
5. Defining language vitality and the kinds of questions that probe this
6. Testing and critically evaluating innovative models/templates.
7. Indigenous ways of data gathering
8. Decolonizing assessment strategies
9. What does it mean to ask a question?
10. What does it mean to be a "speaker"?

Participants were invited to come prepared to share their experiences with language surveys. Many brought along their own community surveys and examples of language assessments. Tyler Peterson (ASU), Mary Linn (Curator of Cultural and Linguistic Revitalization at the Smithsonian Center for Folklife and Cultural Heritage), and Susan Penfield (University of Montana) gave presentations on the topics above, and facilitated the group work.

Among the activities explored in this workshop, we asked the participants to try and define what their objectives might be if given the task of undertaking a survey from the perspective of language vitality. In doing this, we were able to start identifying the kinds of issues that come along with survey work, such as thinking about the survey population and any potential ethical issues that might arise. Using this as a foundation, we were able to

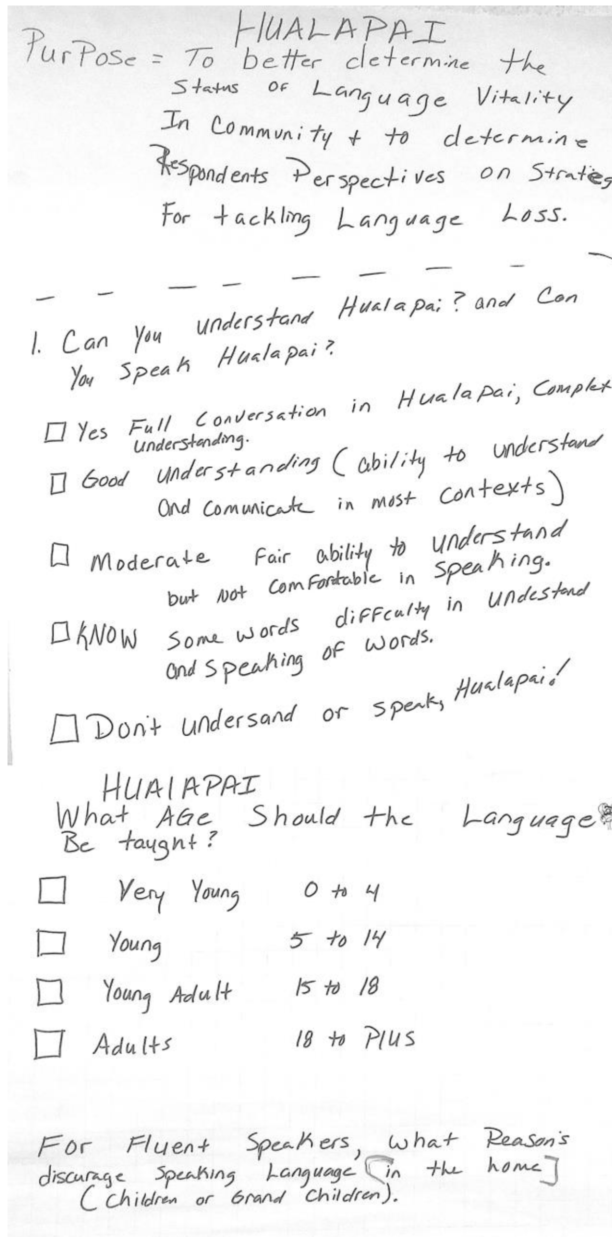
collaboratively begin generating survey questions. One of the main activities of the workshop was to brainstorm and identify the kinds of information that is important to them and their communities. Equipped with the fundamental design features of survey work provided as part of the training, Figures 1-4 are screenshots which are representative of the draft surveys produced by the participants.[5] Workshop participants included community members from the Salt River Pima Maricopa Indian Community (Fig. 1), Ak-Chin Indian Community, Colorado River Indian Tribes, Gila River Indian Community, Hopi Tribe, Hualapai Tribe (Fig. 2), San Carlos Apache Tribe (Fig. 3), Northern Cheyenne (Fig. 4), and the Tohono O'odham Nation (Tohono O'odham Community College).

1. What is your age?
2. Gender? Male or female
3. Do you speak O'odham?
4. Which district do you reside in?
   - Is this the district you're originally from? yes or no
   - If not what is your original district? ______
5. Are you Akimel O'odham or Pee Posh? ______
   - If you are neither what is your tribal affiliation? (i.e. Hopi, Mohave, etc.) ______
   - Is there another Ethnicity/race you identify with? yes or no

   If yes check all that apply:
   ☐ Hispanic/latino ☐ White ☐ Black/African American ☐ Asian ☐ Native Hawaiian/pacific Islander ☐ Middle East Indian
6. Do you speak Akimel O'odham? yes or no
7. Do you understand Akimel O'odham? yes or no
8. Do you speak Pee Posh? yes or no
9. Do you understand Pee posh? yes or no
   - How often do you speak Akimel O'odham/Pee posh? ☐ often ☐ sometimes ☐ Rarely ☐ Never
10. With whom do you speak the language with? ☐ spouse ☐ parents ☐ grandparents ☐ Aunt/uncle ☐ siblings ☐ Cousin ☐ children ☐ grandchildren ☐ Friends ☐ Co workers. ☐ other (specify): ______
11. How often do you hear the language? ☐ often ☐ sometimes ☐ Rarely ☐ Never
12. Where do you hear the language? ☐ Home ☐ work ☐ meetings ☐ Gatherings ☐ Hospital ☐ Post office ☐ Chair Volleyball ☐ feast house ☐ Store ☐ other (specify): ______
13. Can you read the O'odham/Pee posh language? yes or no
   - Do you understand Akimel O'odham/Pee Posh when reading it?
     ☐ I understand it completely
     ☐ I understand it sometimes
     ☐ I cannot understand at all
     ☐ I would be willing to learn
14. Is there other languages spoken in the home? yes or no
   - If yes, please specify: ______
15. How important is it to speak the Akimel O'odham language?
16. How important for you to speak the Akimel O'odham language?
17. How important is it for our community to carry on the language
18. Where should the language be spoken? ☐ Government ☐ school ☐ home ☐ church other: ______
19. Whose responsibility should it be to teach/continue the language? ☐ family ☐ school ☐ elected officials ☐ other: ______

Figure 1: Salt River Pima Maricopa Indian Community (Piipaash and Akimel O'odham)

5 All of the symposium, course, and workshop outlines and activities discussed in this section are freely available to share and modify. They can be found at https://aildi.arizona.edu/content/language-vitality-project



HUALAPAI

PurPose = To better determine the Status of Language Vitality In Community + to determine Respondents Perspectives on Strategies For tackling Language Loss.

1. Can you understand Hualapai? and Can You Speak Hualapai?

☐ Yes Full Conversation in Hualapai, Complete understanding.

☐ Good understanding (ability to understand and comunicate in most contexts)

☐ Moderate Fair ability to understand but not comfortable in speaking.

☐ KNOW Some words diffculty in undestand and speaking of words.

☐ Don't undersand or speaks Hualapai!

HUALAPAI

What AGe Should the Language Be taught?

☐ Very Young 0 to 4

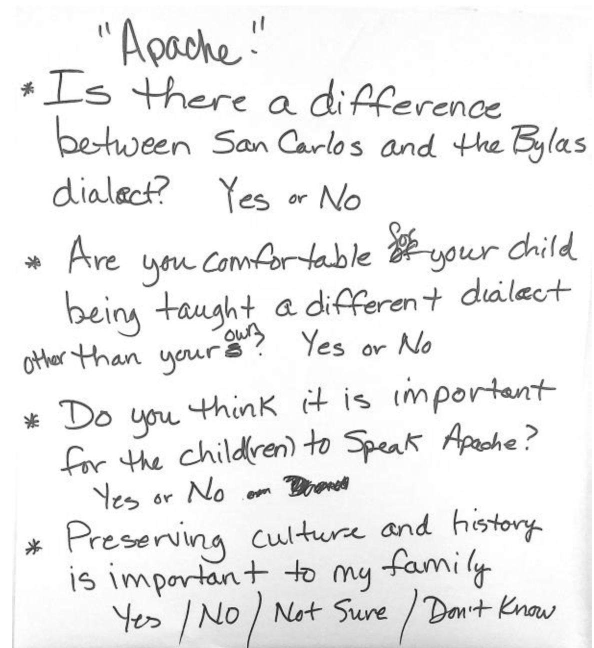
☐ Young 5 to 14

☐ Young Adult 15 to 18

☐ Adults 18 to PlUS

For Fluent SpeaKers, what Reason's discurage Speaking Language [in the home] (Children or Grand Children).

Figure 2: Hualapai



"Apache"

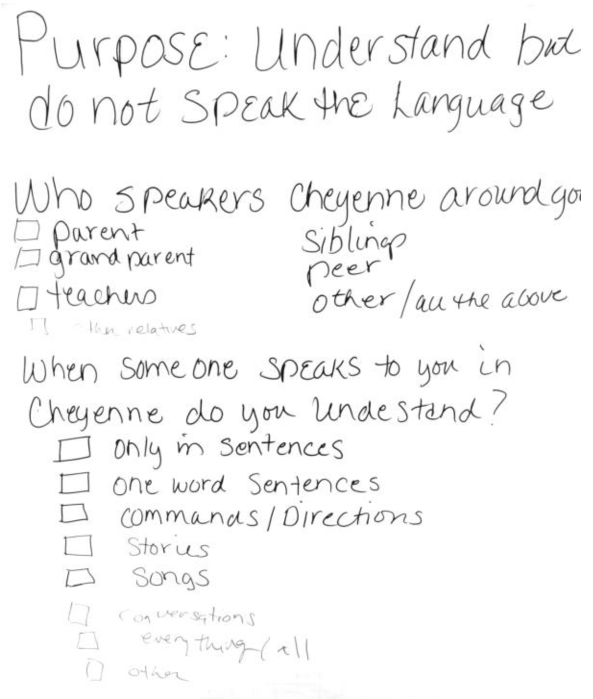
* Is there a difference between San Carlos and the Bylas dialect? Yes or No

* Are you comfortable for your child being taught a different dialect other than your own? Yes or No

* Do you think it is important for the child(ren) to Speak Apache? Yes or No

* Preserving culture and history is important to my family Yes / NO / Not Sure / Don't Know

Figure 3: San Carlos Apache



Purpose: Understand but do not Speak the Language

Who speakers Cheyenne around you

☐ parent
☐ grand parent
☐ teachers
☐ other relatives
Siblings
peer
other / all the above

When some one speaks to you in Cheyenne do you undestand?

☐ only in sentences
☐ one word sentences
☐ commands / Directions
☐ Stories
☐ Songs
☐ conversations
☐ every thing / all
☐ other

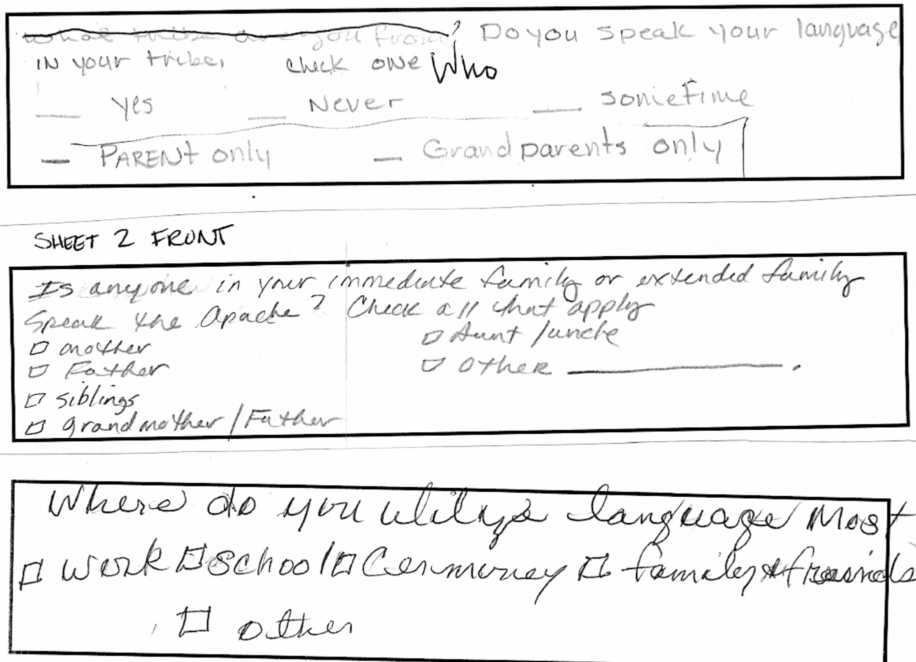
Figure 4: Northern Cheyenne

4.2 Focused work with project collaborators

As a follow-up to the workshop, AILDI at the University of Arizona offered a three credit course called Data Gathering Management, Synthesis and Use (June 6 - 29, 2016 Co-instructors: Tyler Peterson and Rolando Coto-Solano). The course addressed in detail the issues involved with data management systems for organizing, storing, managing and retrieving various kinds of information from language fieldwork. The course included hands-on training using database management systems (DBMS), and equipped the participants with the necessary knowledge and techniques for designing and implementing a secure, accessible database using open source software, scaled and customized to the community's needs. The course also provided training in survey data analysis, how to use the information gained in a language survey toward establishing community networks of support in preparation for grant proposal development and in language and culture program development. Through the AILDI/UA summer course and workshops this project provided extensive training in the methods and practices of survey design and deployment, as well as data analysis and management. We estimate that they received almost 100 hours of training through the duration of this project.

Five workshops over the next three years followed the summer course, and were designed as extensions of the course. Each of the participants in the summer course took the surveys they designed and tested them in their respective communities. In the first workshop (November 17 and 18, 2016), the core project participants met at the University of Arizona to review the summer course, and to begin the process of creating their own pilot surveys. The two day workshop focused on the politics of language surveys, clarifying goals and creating a plan. Two guest speakers from New Zealand (Katarina Edmonds, Senior Lecturer, Maori Education, University of Auckland, and Tania Ka'ai, Director, The National Maori Language Institute and the International Center for Language Revitalization, Auckland University of Technology) shared their experiences with deploying a national Maori language survey. The speakers joined the meeting remotely via teleconferencing. At the end of the workshop, participants were tasked with creating at least 10 questions for their survey in order to discuss at the next workshop.

The focus of the second workshop, held at the University of Arizona (February 9-10, 2017), was to review and refine the ten different questions that the participants were going to use on their pilot surveys. The workshop included a team building activity and discussions on templates, and community dynamics. One activity is designed to help generate survey questions in a more collaborative way. The goal at this stage is to focus on the kinds of information desired, without thinking about how the questions are ordered. Using the Survey Preparation Sheet activity each question is written on a strip, and then the 'strips' are cut up and distributed to the group, where every strip is a possible survey question. Figure 5 is a sample of the kinds of survey questions the participants formulated.



~~What tribe are you from~~? Do you speak your language in your tribe, check one Who

__ yes __ Never __ sometime

_ PARENT only _ Grandparents only

SHEET 2 FRONT

Is anyone in your immediate family or extended family Speak the Apache? Check all that apply

□ mother
□ Father
□ siblings
□ grandmother/Father
□ Aunt/uncle
□ Other ______.

Where do you ulilys language Most

□ work □ school □ Cermoney □ familey & friend(s)

□ other

Figure 5: Sample of survey questions generated by participants

These are then gathered, sorted, and edited by the group (Fig. 6). Redundant questions, including the same questions asked with different wordings, indicate common interests or a consensus among the group.

Figure 6: Survey Preparation Sheet activity; participants (from left to right): Richard Pablo, Julene Narcia, Cordella Moses, and Pamela Harvey.

The strips with the questions are then manually ordered by the group, producing a first draft of the survey. This process can be expanded and repeated as necessary until a final version of the survey is produced. The final version of the survey was then coded in Google Forms and also printed out in hard copy. The participants then tested the survey in their respective communities. They were also asked to make note of any observations or challenges they encountered.

In the third workshop (April 28th, 2018, University of Arizona), the participants reconvened and reported on the results of their surveys. This was the first opportunity to exercise the skills acquired in quantitative and qualitative analysis using real survey data. A detailed evaluation of the survey was discussed and strengths, weaknesses, and the survey's overall effectiveness was assessed. Discussions included logistics of the survey, questions that did not work or need to be refined, data management. The group discussed in-depth the pros and cons of having on-line surveys or hard copies. The group also planned how they wanted to share their survey experiences with other tribal communities.

4.3 Capacity building

A major aim of the project was to have our participants transform themselves from learners to teachers. This aligns with a current trend which leverages specialists (university professors), concepts (involved in designing a survey), methods (how to design one) and resources (federal assistance like this) in the service of community empowerment and a decreased reliance on outside assistance in carrying out some of the more technical aspects of language revitalization work. This also exceeded our expectations: in the two final workshops in the project our participants took the lead in presenting their work and training the workshop participants in the methods *they* developed.

The fourth workshop was hosted by the Salt River Pima Maricopa Indian Community (SRPMIC, Scottsdale, AZ, March 23, 2018). Our tribal participants were given the lead roles in the setting of the content and format of this workshop. Tribes from around Arizona were invited to attend. The project participants publicly shared their experiences with their surveys and the entire project. Approximately 35 individuals attended the presentation. The fifth workshop was hosted by the Tohono O'odham Community College (January 18, 2019). A training and education session was held for the core participants to further share their expertise on developing and implementing a language survey. The first day was a review for core participants. The second day consisted of a training session for faculty and staff from the TOCC. One of the major culminating activities of the project is the production of a draft of a *Workbook for Language Vitality Survey Development*. Although at the time of writing, this complete form is still in development. However, our project, led by the community participants and guided by the PIs, produced a ‘checklist’ that serves as an initial stepping stone for creating a vitality survey. It was the penultimate activity planned as part of the project, which was tested by our tribal instructors at the TOCC workshop.

As an academically-oriented activity, the team prepared, co-authored, and co-presented the talk "An Indigenously-informed Model for Assessing the Vitality of Native American Languages in Southern Arizona" (abstract attached as supplemental document) at *The International Year of Indigenous Languages 2019: Perspectives* (October 30 – November 2, 2019 Fort Wayne, Indiana). In this talk we shared the experiences and results of our journey through our project together.

5.0 'A Pilot Survey on Native American Language Vitality'

The final pilot survey produced by the tribal participants has 21 questions, ranging from multiple choice and multiple select, Likert scales, and short and long text answers.[6] These questions were divided into five sections:

1. Introduction to the survey
2. Demographics
3. Knowledge of your language
4. Attitudes and opinions
5. Focus on future vitality

All of the questions require answers. Sections 1 and 2 asked a number of general questions about gender and age, as well as an optional question on tribal affiliation. Section 3 focused on asking if the survey participant knows their native language already, and if they do, where and with whom they use it. Survey takers are given the option to multiple select *know words and phrases, understand, but not speak, speak it in conversation with others, work to be understood, hold conversations using limited English, hold conversations using no English*, as well as a short answer option. We also included a question on where your native language is used: *at home, at ceremonies, at community gatherings/cultural gatherings, with friends, at school, in church, during songs or stories, wor*k, as well as a short answer option.

Section 4 asked questions that ask the survey taker to share their attitude and opinions about learning and revitalizing their native language, including a question on literacy. This section begins with the question: *does where you live influence your ability to speak the language?* In addition to *yes/no/maybe*, they are given the option to share a short response. The following question, *do you think the language is difficult to learn?* has a wide range of possible responses: *very hard to learn, somewhat hard to learn, it takes too much time, need more teachers, need more materials, it's easy to learn,* as well as a short answer option. What is notable about these possible responses is that only two of them target the survey taker's opinions on difficulty (*very hard to learn, somewhat hard to learn, it's easy to learn*), while the other responses focus on factors that suggest reasons for difficulty (*need for more teachers/materials/time*). Another question in this section asks the survey taker to share the reasons why they want to learn their language: *to speak to your parents, to speak to your children, to save the language for future generations, to learn songs, ceremonies or prayers, to become a more fluent speaker, to feel more complete or whole, to have more pride and self-esteem, to speak more with other speakers who know the language*, and the option to share a short response. Next the speaker is asked to rate on a likert scale how important it is to revitalize their community's language. The last two questions focus on language education: *If language revitalization is important, what do you think is the best way to teach the language?* The range of possible multiple-selection responses are: *mentor/apprentice approach (a learning program that pairs a language learner with a fluent speaker), immersion (using the native language only with no english used), head start, language nests (babies, infants learning language at home), community classes, in primary school, in high school, in college or university, workshops, written documents (i.e. grammars and/or dictionaries)*, and the option to share a short response.

[6] The full survey can be accessed at https://aildi.arizona.edu/content/language-vitality-project

The last question in this section is a short response to the question of literacy: *is it important to learn to read and write your language?*

Section 5 of the survey focuses on the future vitality of their community's language. The range of questions in this section is to gather the survey taker's opinions on where they think this should happen. This section opens with the question: *Are you concerned about the state of your language?* The possible responses are essentially on a six-point scale: *I am not concerned, I think the language is at risk of being lost, I think the language is in a weakened state, I think the language is endangered, I think the language is critically endangered, I think the language is gone…*, with an option for a short answer response. The survey taker is then asked to consider in a short answer response how language learning can be made more interesting. The next two questions ask about where the language should be taught: *at home, at school, at community locations, and/or colleges and universities. If the native language is to be taught in school, how do you want it to be taught?* The options to this include *one or two subject areas, in after school programs, as full immersion, as dual immersion.* The next question asks the survey taker to rate on a four-point likert scale of importance (from *less important* to *crucially important*) *what group should be the focus group for language revitalization: infants, children under 5, children who know how to read and write in English, people who want to learn, everyone should be encouraged to learn their native language*, with an option for a short answer response. The last three questions of the survey ask for the survey takers free-form responses to the questions: *Does your community currently have any revitalization activities? If so, what specifically are they doing? What does your language mean to you?* and *is there any other information that you would like to share that was not included in this survey questionnaire?*

6.0 Future Directions

Two significant results emerged from this project. The first involves one of the major objectives of the project, which was to put the tools and methods of survey design and data analysis into the hands of the people who need or want this information: the Indigenous language activists who work in their communities. As such, the focus of this project was on training, both in a formal context, such as a for-credit university course, and in an intensive workshop format. To our knowledge, this is the first time this approach has been taken with survey work. The results of this exceeded our expectations: our core participants immediately devoted themselves to the tasks of learning what can be fairly dense, technical, and abstract information - especially if one does not have experience learning in a college environment. In fact, because they integrated this so well into their work, in some places we had to 'step up' the kinds of concepts and materials we worked with. The evidence is in the quality of the results they produced, both in terms of the surveys they designed and how they applied standard analytical methods to their data (i.e. mixed methods, etc.).

The second significant result to emerge is what we found in the surveys the participants designed and deployed. Although further research is needed (likely in the form of an expanded project based on our pilot), it was interesting to find that the surveys the participants designed did not depart in any significant way from the kinds of survey tools developed by, for example, the First Peoples' Cultural Council. This is significant as it not only further validates their approach, but it also tells us about the kinds of information Indigenous researchers need from their surveys once they are fully equipped with the knowledge of survey design.

We have collected many anecdotes of how the participants of this project have already put their skills and survey to use in their respective communities, using their survey data and results to apply for grants, and to make the case for more resources allocated to language education. The high level of Indigenous participation in this project, both researchers, support staff, and community researchers, will push research efforts that more fully evolve from a grass-roots approach to language vitality work. Indeed, other communities have also expressed interest in replicating our training models. Given these successes, there are several directions under consideration for future research: The use of innovative audio survey tools can be expanded to other types of assessment contexts in Indigenous language communities. Supporting participating tribes in building usable repositories or archiving programs for language data can also be expanded to other fields. Further research aimed specifically at broadening participation of the under-served Indigenous population could be considered in areas related to the social sciences including cultural anthropology, linguistics, law and policy, geography and sociology, and to the biological and environmental sciences, particularly in relation to advancing our understanding of traditional ecological knowledge.

With the aim of moving toward a national assessment of Indigenous language vitality, the next practical step would be to widen the scope of this project in an incremental and manageable way. Given the immense diversity of Indigenous communities in the U.S., an aggregation of survey questions that meets the interests and needs of *all* of these communities may prove impractical. As such, one approach we are exploring (based partly on the activity briefly described in Appendix 3), would be to create a repository of survey questions that measure language vitality. With the appropriate financial resources, management, and infrastructure, such a repository could serve as a stable resource and tool for Indigenous communities throughout the U.S., empowering them with the autonomy, skills, and knowledge necessary to further their language documentation, maintenance, and revitalization plans.

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