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Recording to revitalize: Language teachers and documentation design

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As language communities lose their last first-language speakers, many turn to language teachers to carry on the important work of language maintenance and revival. How can we design documentation projects that will be useful for these future language users? This paper outlines findings from interviews conducted with ten teachers of Native languages of the Pacific Northwest. These teachers identified specific, concrete areas where language documentation has helped them in their revitalization work, and areas where there are noticeable and often frustrating gaps. Their reflections and observations lead to several concrete suggestions for what linguists can add to their documentation efforts, and also underscore the potential richness of a project designed with teachers in mind. Collaboration with future language revitalizers could be greatly beneficial both to language communities and to linguists.

1. Introduction¹ It is an unfortunate reality that very few of the Native languages spoken in North America today are being learned by young children. When the last generation of first language speakers passes away, communities will turn to the records made of their languages for maintenance and revival. What kind of language documentation will best serve the needs of these future language users?

To address this question, I conducted interviews with ten teachers of Native languages of the Pacific Northwest, some of which are no longer spoken as first languages. These teachers identified specific, concrete areas where language documentation has helped them in their revitalization work, and areas where there are noticeable and often frustrating gaps. What emerges from these interviews is not an exhaustive, prescriptive checklist for how to go about documenting a language, though certain recurring themes do highlight important components of a successful project. More importantly, the reflections and observations shared here provide a glimpse of just how rich and immediately usable a documentation project can be when it is built in partnership with future language revitalizers. The suggestions from the language teachers in this article are specific, pedagogically motivated, culturally connected, and concrete. Ultimately, this is just a sample of the richness available if documentation projects involved these types of stakeholders from the outset.

¹I am grateful to all of the language teachers who shared their experiences and suggestions with me for this project – they are listed and acknowledged individually in Appendix A of this paper. I also thank Robert Elliott for his help creating the map of these languages (Figure 1). I am also very grateful to Spike Gildea for his many creative suggestions, and to him and two anonymous reviewers for their thoughtful feedback.



2. Designing documentation The by-now classic definition of documentation is that it is a "lasting, multi-purpose record of a language" (Himmelmann 2006:1). This definition is purposefully broad, and "is based on the idea that it is possible and useful to dissociate the compilation of linguistic primary data from any particular theoretical or practical project based on this data"; rather, documentation as a field is concerned with ensuring that a data collection can be used for any number of projects in "a broad range of theoretical and applied purposes" (2006:2). Woodbury (2011:173) defends such a broad definition for endangered language documentation as a caution against focusing on the narrow interests of researchers, as "there is a danger and even a tendency for individuals to establish and stipulate more specific practices aimed at just the situations they are most accustomed to, losing track of the greater whole". Furbee (2010:5) explains that "it is not easy to conceive of a complete or even adequate catalog of the important kinds of language phenomena that might be encountered" - which is fair enough. Languages come in endless typological variety. However, caution against lists of "language phenomena" does not preclude recommendations based on the *use* of documentary data, which may be more generalizable across communities in similar situations. In his review of Essentials of language docu*mentation*, the source of the above Himmelmann definition, Evans (2008:345) notes that "what would have been helpful, in a book on language documentation, would have been to say more about how anticipating the needs of language maintenance and revival programs might point to certain types of data-gathering that would otherwise be overlooked".

Both Himmelmann and Woodbury also emphasize the importance of the documentary *apparatus*, a term borrowed from philology – that is, information about provenance and context that accompanies the text or linguistic data (Woodbury 2011:160). In the documentary literature this is generally covered by the term *metadata*. However, Himmelmann extends the term "apparatus" beyond its philological roots to refer to a suite of information meant to make primary data "accessible to a broad range of users, including the speech community" (2006:11). If we take the term *accessible* to mean not just physically locatable but also *usable*, in line with the idea of a "multi-purpose record", then the documentary apparatus must take into account future uses by language community members. Though metadata like information about the date of a recording and the equipment used might be interesting to community members, it is not clear how such metadata will greatly assist in language use.

Grenoble (2013:46) points out that the inadequacy of language documentation theory means that "we have no real way of assessing the quality and sufficiency of documentation" and instead turn to technical standards, such as quality of audio recordings, to judge whether a project was any good. This operationalization of the (absence of) theory "completely skirts the question of content" (46). To address this gap, she argues for a focus on language revitalization to inform documentation. This has a sound interpersonal basis: as community members are invested in language revitalization, successful collaborations and partnerships will take this into account. But Grenoble also argues that "a consideration of the kinds of documentation needed for successful revitalization can shape the documentation itself in new and challenging ways" (45).

Similar to Grenoble's question about assessing the quality of a documentary project, Berge (2010:63) poses the question, "If documentation can and should be undertaken by everybody, and should include everything, then what, specifically, should linguists focus on?" She suggests that "one measure of adequacy in documentation and description might be how learnable the language is as a result, since acquiring fluency in a language requires enough data with enough descriptions to reproduce the language outside its normal context" (66). Learnability is an assessment tool for the linguist in this formulation. Learnability has merit as a post-hoc measure of adequacy, but I would argue that language revitalization turns this idea on its head; documentation can be designed *for learnability at the outset*.

Of course, few documentary linguists are also applied linguists or language teachers, meaning that "learnability" of language material is not a natural area of expertise. Nonetheless, as Jansen & Beavert (2010:66) argue, if language teaching is a community priority, then "being aware of teaching contexts and preferred curriculum and methods is a key step in documentation". They give a case study to illustrate how this might proceed; in a collaboratively designed and executed documentation project, an Ichishkiin language speaker and community leader (Beavert²), a linguist (Jansen), and a classroom language teacher (Roger Jacob) collect materials that are of both cultural import and immediate usability for classroom lessons. They argue that in such a collaborative framework, documentary linguists "can assist with teaching materials collection [...] without sacrificing their own academic goals" (64). Mosel (2012113) also puts it very practically: "Linguists [...] may wonder if this kind of collaborative fieldwork is compatible with their professional aims and obligations". She concludes that "the answer is definitely yes" (113) if the documentary corpus meets discipline standards for recording and archiving. Thus designing documentation with language teaching in mind is feasible precisely due to its collaborative nature (see also Rice 2009) and to the technical expertise of the linguist.

3. Methods and motivation From this project I wanted to gain insights into specific ways to document a language that could be useful for later language revitalizers. There are many different ways that communities engage in language revitalization activities (see Peréz Báez, Vogel, & Patolo *forthcoming*). However, a large number of communities, including those in the Pacific Northwest, focus on language teaching as a primary activity; for this reason, this paper also focuses on language teaching.

In order to explore this topic, I spoke to ten interviewees either in person at the office of the Northwest Indian Language Institute (NILI) at the University of Oregon, or via Skype when distance and travel prohibited a face-to-face interview. The interviews were conducted in (American) English, the first language of all of the interviewees. In all, I collected and transcribed over eleven hours of audio recording from these interviews. After I had transcribed the interviews, I sent each participant

²Dr. Beavert is in fact the language teacher and mentor to two of the Ichishkiin teachers interviewed for this paper.

excerpts from their contribution that I planned to use in my analysis, in order to give them a chance to make any corrections or redactions.

Each of the participants is or has been a teacher of a Native language of the Pacific Northwest (i.e., northern California, Oregon, and Washington state). The languages they teach are shown in serif font in Figure 1 (see also Appendix A for a full list of the participants and their language communities). Three of these teachers are non-Native, while seven identify as members of Native communities. Some of the participants still have regular contact with first-language-speaking elders; some were able to work with the last first-language speakers before they passed away; still others never knew a person for whom the language had been an L1. Each of these language teachers has access to at least some earlier recordings and word lists, though the quantity and quality of earlier documentations varied quite a bit among the languages. The ages of the students taught by these participants included preschool, elementary school, high school, college, and adult. In addition to their roles as classroom teachers, some of the participants have had experience in other pedagogical roles, such as curriculum development, teacher training, and classroom materials production. One of the participants held a high school diploma plus a certification to teach indigenous language; others had Master's degrees in Linguistics, Language Teaching, or TESOL; still others had received or were working on PhDs in Linguistics.³

What all of these teachers have in common is that they have attended the NILI Summer Institute. The Northwest Indian Language Institute supports the documentation and revitalization of the Native languages of the Pacific Northwest. Since 1997, NILI has hosted an annual two-week long summer institute, which provides training in linguistics, language teaching, and language activism to members of Pacific Northwest communities. All of my interviewees have participated in at least one of these annual institutes and have received language teacher training there; they have all been exposed to best practices in language teaching and ideas for pedagogy. From this training they have developed a range of different teaching styles, approaches, and philosophies, based on experience in their communities as well as personal preference.

The literature reviewed above outlines reasons for considering revitalization while doing documentation; the participants in this study highlight the importance of such considerations in specific and concrete ways. First, every participant indicated a reliance on particular individuals, sometimes even a single individual, as a language resource. This was true even in programs with fairly robust language programs. For example, Annie,⁴ a teacher of Warm Springs Ichishkiin, reported that she and her fellow teachers work with two elder speakers. But at the time of our interview, these

³I myself am not engaged in documentation projects in these communities specifically, nor am I a community member. I am a linguist working towards a PhD with a strong research interest in language revitalization and linguist-community collaborations. While I have not had experience teaching indigenous languages, my background is in applied linguistics and language pedagogy, and I have been a classroom teacher of English as a second language. My connection to the communities discussed here, and to the specific individuals I interviewed, is via my work as a staff member at the Northwest Indian Language Institute during my time in my degree program.

⁴Note that all of my participants waived anonymity, and I refer to them here by their first names, in keeping with how we referred to each other in the interview setting itself (it is common practice among similarly-aged adults in the West Coast of the US to refer to each other by first name only).



Figure 1. Map of the area covered by this interview project, with languages represented in serif font (© NILI 2016)

elders were both just returning from winter vacation, and Annie had been unsure in the weeks prior who exactly to refer to in their absence. Dependence on individual experts can hamstring a language revitalization effort, with the most extreme and obvious example being the death of a last L1 speaker. Sometimes, recordings may be the only access to an expert individual; in order to give a community a shot at long-term success, documentation must strategically include recordings to anticipate these needs.

Second, documentation is not always accessibly presented in any of the languages reported on here. Two of the participants described themselves as "the middleman" or "an intermediary" in their roles, trying to turn previously recorded language data and previous linguistic analyses into something useful for the community.

Third, the main reason to talk specifically to teachers is that they are the primary, and in many cases the *only*, people doing revitalization work in their language. Communities often rely almost exclusively on classroom language teaching for their language maintenance efforts. Another key reason to talk to these participants is that they are all language learners as well as teachers. None of the participants, regardless of their relationship to their communities, is teaching their own L1. Their dual perspective as teacher-learner means that not only can they articulate what they need to be able to teach their language effectively, but they were also able to introspect about their own learning process and to give specifics about their learning needs. And finally, it is important to note that these language teachers wear many hats. For example, Greg leads an after-school language and culture club for preschool and early elementary students, teaches a college language course, produces and stars in his own Ichishkiin YouTube videos, produces curriculum materials, actively documents his language with elder speakers, and studies the language himself. He also holds two official academic positions:

I'm the director of the Heritage University Language Center [located on the Yakama Indian Reservation in southern Washington] which is dedicated towards language revitalization, preservation and promotion [...] I am right now also the Melin Endowed Chair of the Sahaptin Language Department, which is focused on producing a quality Sahaptin Ichishkíin language instruction amongst the universities, and it's like "wow! that sounds pretty cool! how many people do you have on your staff?" And I'm like "Oh, including both of my positions? – Me. Just me." It SOUNDS fancy, both of them sound fancy, but it's all just, yeah, me! And that's a ton of work.

Greg is an extreme case, and he is a very motivated learner and teacher. But all of the participants hold multiple important roles in their language communities. And, just as communities often rely on individual elder speakers as language resources, they also tend to rely on individual motivated teacher-learners as their language revitalizers. As so much of a community's dreams for revitalization fall to its teachers, focusing on making their jobs easier and more successful will ensure that our documentation work will have maximum impact.

4. Teacher needs In this section I will present information and ideas from language teacher interviews, and suggestions about how to translate these ideas into part of a language documentation project. What follows are not strict instructions about how to document a language. Rather, here I hope to share the voices of the language teachers themselves, and to suggest interesting ways that using insights from teachers could make future documentation projects richer for both linguist and community member. Many of the creative ideas given in this article come from the interviewees themselves, or with conversations I have had with linguists who have had significant experience documenting indigenous languages (e.g., Gildea, Jansen).⁵

4.1 Rich content Many language documentation projects begin with the recording of traditional stories and narrative texts. These stories can be of great cultural value as well as anthropological interest, and are often characterized by repeating language structures, recognizable characters, and predictable events, all of which can aid in language learning especially at lower proficiency levels (Jansen & Beavert 2010:73). On the other hand, a corpus consisting solely of such narratives is not sufficient for

⁵Personal communication.

communicative pedagogy or multi-domain language learning. For example, the language in such stories does not represent the kinds of day-to-day and conversational language use that are crucial to support language revitalization (Yamada 20114). The teachers interviewed in this study identified several language domains and genres, in addition to traditional stories and legends, that are especially useful in helping them to learn and teach their languages.

Several of the participants identified songs as an important linguistic resource. Enna, who works on the Hanis language of the southern Oregon coast, said, "I like to learn the language through the songs [...] I've learned a lot of the language that way". Songs are one way of connecting language to culture, which is a meaningful component of language learning for her (for example, she also reported that she enjoys practicing the language through traditional arts and crafts). Songs have an emotional and familial connection and can be used as a language learning tool and as a way to share language across generations: "The 'stickiness' of their melody and language makes them a fundamentally human way of 'archiving' language" (Nathan & Fang 2013:49). Janne, speaking about the Klamath community, emphasized the importance of children being exposed to the language from birth. Of course a single song is not sufficient to revive a language, but she added, "Even if that's all you have, what a great thing, that there could be a lullaby that a mom could sing to their kid".

Emotions and words for interior life came up frequently as well. Greg said that he uses talking cards with words for emotions for his preschoolers, and they practice talking about being happy, sad, angry, etc. Pam, who teaches Kiksht language in the mornings at the local middle school, said she always asks her students how they are feeling on that day, if they are tired, etc. "Just to know them," she said, to establish a trust and a connection with the teenagers on a personal level. These words are not always available in previous documentation. Jaeci said that the biggest gap in her Tututni materials is "wuju-y stuff, or love-y stuff [...] spiritual things, or talking about caring for other people [...] talking about your wishes and your dreams [...]". She added that she didn't know "if our people just didn't talk about all that stuff as much because I never really have talked with a fluent speaker, or if it was just talked about in a way that the linguist never picked up on. Or they just never asked". This is an important point about the trickiness of documenting such things. It is possible that speakers are not comfortable talking about these things into a recorder. It is also possible that the way they would talk about them does not translate well into English. Emotional and spiritual categories from one language and culture do not map perfectly onto those of another culture. But the teachers in communities such as those represented here are often teaching students who are exposed and assimilated to a dominant culture, so the teacher is forced to find ways to express emotions as she and the students currently conceptualize them. Having these things recorded in the traditional categories will at least give teachers the chance to make choices about vocabulary and teaching.

Teachers can also make choices about pedagogical strategies if different modes of learning have been recorded. Judith and Jerome both pointed out that current theories of best practices in language teaching are based on very Western models, and Judith reports that Native language teachers really want to know how teaching was done in traditional ways. Jaeci relates how she was introduced to her language at a culture camp where they would sit at an elder's feet and repeat individual words over and over after him. This is not a model for learning that formal training programs usually prescribe to teachers, but Jaeci says she still remembers those words she learned from her elder, because they were important and salient to her, and because it was part of an experience she shared with other people. Meanwhile Greg described frustration with the position that language should not be taught by reading and writing because it's not "how [the elders] learned it"; he points out that his second-language learners don't have much opportunity to speak it in the home and only have limited time in the classroom, so he has to make a lot of adaptations to traditional ways of passing on language to maximize these students' learning. Recordings of teaching and tutoring sessions from elders, whether lessons in language or any other cultural content area, would help teachers with language needed for teaching as well as for making choices about how to teach. Such recordings can also be very valuable to linguists as we look for data about emergent language in revitalization situations (Grenoble 2013:49).

There is also a strong need for classroom language – the language that teachers need just to get through the mechanics of a school day. As Janne puts it, "You know, kid's gotta go to the bathroom [...] all that kind of transition talk that we use as we move from one place to another during the day". Other teachers echoed this idea, noting that teachers don't always know how to say "raise your hand," "circle up," etc. This is high frequency language that teachers use, and if they have these words and expressions in their Native vocabulary, they can focus more fully on the content of their lessons. In a follow up conversation, Janne emphasized that what would be helpful to record is all *transition times* in a class day, such as when recess is over, when it's time to change classrooms, etc.

Some of the teachers interviewed prefer to teach a content-based class, which places a premium on substantive language. For example, Jerome said he feels uncomfortable teaching his college-age and adult students Chinuk Wawa grammar, and he would rather teach them about other things *in* Chinuk Wawa. As he puts it,

[I would like us to get to the point] where we could discuss an article, a reading, a movie, in the language [...] Like at the college, or at U of O [University of Oregon], if you take a 300-level Spanish course, it's not Spanish language where they're like, here's a grammar lesson. It's like, read this book and we'll talk about it. And maybe you'll talk about some of the grammar stuff [...] I mean we do that in English courses, we talk about how Shakespeare chooses to use the language in different ways. So like that. A discussion, or learning about other things in the language.

Judith gave an example of third-graders in an immersion program who have to write a report about Oregon history, but there is no history book written in Chinuk Wawa for them to turn to. Addressing these needs depends on a rich body of literature and information, which is in turn dependent on language learners and speakers motivated to create this material themselves. This is a place where traditional documentation practices (e.g., recording narrative texts) can be particularly useful.

Substantive language use is not exclusive to the classroom either. Zalmai does not teach standard classroom language lessons, but rather advocates for revitalization based on reclaiming physical domains for the language (see e.g., Zahir 2018). For example, he and his online language learners agreed to designate their kitchens as Lushootseed-only zones. He reported,

[...] one of the most fun activities that we did during [the online] class was [I said] okay you guys in a couple of nights we're gonna make peanut butter and jelly sandwich for class, so have peanut butter, jelly, a knife, and bread there on a plate, and here's the vocabulary. And one by one, each of them – they weren't perfect! The grammar wasn't perfect, they didn't flow, they had to read some things – but one by one, each group told us how they made a peanut butter and jelly sandwich. And some of us, it seems like one of them even had a chef's hat or something, you know? They loved it! Because they were using the language. And I didn't tell them how. I gave them the vocab up front a couple days and they practiced it, because they knew they were gonna do it – and they WANTED TO.

In order to do activities like this, teachers and learners need to have access to vocabulary and grammar for talking about concrete things and events.

The biggest language genre need, which came up in almost every interview I conducted, is *everyday language*. As Regan said,

For me the exciting stuff is the everyday language, home language, so you know if we're gonna get together and have dinner can we do this all in Ichishkiin? That would be a big goal. Of [...] yeah just spending time together. And talking in a, you know just an authentic conversation, communicative, genuine way. I would be excited to just teach kinda everyday conversation, I would be really excited [...] just giving students and the young minds the tools to use the language with their friends on a daily basis would be really exciting.

One of the questions I asked of all of my interviewees was, What lesson would you like to offer your students if you had all the language you needed, all the resources you needed, everything you would need to teach it? What would you be most excited about teaching? Many of the teachers said they would like to do a traditional craft – making a basket, beading moccasins, or weaving. These are activities that have cultural significance, the teachers have some expertise with them, and they make for hands-on, experiential lessons – all good reasons in themselves. However, every teacher who mentioned an activity followed this by saying something like what Jaeci said: "Then the next bit would be like, well let's start talking, conversing, and like, chit-chatting [...] if we're all sitting together and crafting then that's a time when we can actually visit. And use our language". So these are not just craft lessons,

they are opportunities to spend time visiting and shooting the breeze. Linguists have over the past decades come to acknowledge the importance of everyday, naturalistic language for both documentation and analysis. These teachers give us a powerful reminder about the practical need for everyday language for language communities. As Jerome said in a follow-up interview, conversations are "one of the most precious pieces of recording we can have".

Much of the rich content described above will be missed in documentation projects. Given limited time with first language speakers, language documenters may need to stage certain scenarios in order to capture the language described above. Having speakers sit down and asking them to make casual conversation could be awkward and ineffective. Having them sit down to an activity such as basket weaving could yield more relaxed, natural conversational data - and allows for multiple conversation partners, rather than the two-person conversations that are often recorded. Zalmai's peanut butter and jelly activity is an excellent example of a staged activity that can provide rich, immediately usable language. In many cases a first-language speaking elder might not be the person leading a classroom, and so a documentation of classroom language might consist of recording a teacher going about their class day in English and having a first-language speaker dub over with appropriate language. This can be helpful for teachers, and can also be a way of eliciting from a speaker language that they might not have thought of or shared before. This might not be a "natural" way of capturing language, and it might not be a traditional genre for speakers of these languages, but it is a real need of classroom teachers which is almost completely absent in current corpora of these Native Northwest languages.

4.2 Grammar in use Since description of grammar is a primary focus of many linguists concerned with little-studied languages, documentation projects designed by linguists tend to focus on gathering data that will enable analysis of the language's grammar. Grammatical analyses can be useful for teachers too, and the teachers in this study mentioned some of them in our interviews. In fact, the teachers identified specific, usage-based needs for grammatical analyses, gaps which have not always been filled in previous recordings and descriptions of their languages. Additionally, they point to the need to have grammatical analyses be elucidated more clearly for non-linguists.

As many of these Pacific Northwest languages are polysynthetic, it is no surprise that many teachers identified issues in morphology as being particularly elaborate and particularly troublesome. For example, Judith, in thinking about languages she has written curricula for, said,

It would be really nice if they could break the language down [...] so that people can take the pieces and make their own sentences together. And somehow have the guidance of how to make the sentences be quasicorrect, syntactically.

She noted that in the old texts she has looked at, examples are given with long words loaded with prefixes and suffixes, but teachers need to know how to make simpler

sentences for beginning learners; "how to be able to make it into practical everyday classroom language". (That is, while some descriptive grammars may in fact do what Judith is suggesting here, the ones that she has had experience with do not, and it has been an obstacle for her as a teacher.) This is an area where the specialized skills of the linguist can be particularly useful to the future language teacher. A documentary linguist could extract complex vocabulary from previously recorded texts, parse the vocabulary into individual morphemes, and then create a series of words by removing one morpheme at a time until the result is no longer grammatical. This series of increasingly simplified words could then serve as stimuli for a recording session with a fluent speaker. With this recorded data and step-by-step morphological analysis, language teachers could use simple forms and then teach learners to add morphemes as they progress in their language ability. This need is specific to teachers of languages that are morphologically complex like those discussed in these interviews. But every language has its areas of complexity, and teachers need to know what the flexibility is in that complexity – where they can simplify, what components are essential.

Another interesting morphological problem came up in Greg's interview. He noted that in Ichishkiin, there are slightly different processes for combining words when you are naming a child. For example, "the name for an orange bird would be [m<code>xuf-kakia</code>], but because you're giving it to a person, it's [m<code>xuss-kakia</code>], and I would have never thought, 'oh yeah let's change this to that, because it's a person'." He said that he has no idea why this happens or what the rules governing it are, which is why he always refers naming questions to his elder speakers. To his knowledge there has been no record made of this. A linguist interested in this phenomenon could document it by creating a list of words that might be combined to form names, and then eliciting from a fluent speaker what that combination would sound like if it was given to a child (e.g., "If I want to name my daughter 'Black Bird', what would I call her?") This would result both in a corpus of potential names for future children and a set of data that a linguist could analyze to discover the morphophonemic patterns. This is a very specific example of how a practical problem identified by a language worker can direct us to ask important questions for both analysis and documentation.

This problem echoes a broader theme identified in many of the interviews – the need not just to have newly coined words, but to know *how* to coin new words. Different languages have different strategies for doing this, and future teachers and learners of the language will need to understand these strategies moving forward; after all, we can never predict what new words we will need in the future, and in any language new words are entering the lexicon all the time. Enna, talking about word creation, said,

It's really interesting to study words, like modern words, that our ancestors created. There's a word for 'train,' for instance, and basically it means 'the thing that's dragged by its nose'. So it's just interesting the way they show us how they think about things.

Enna reported her pride when she attempted to come up with a new word in Hanis for a type of dance movement, and her new word was approved by the elder who taught language to her. Zalmai's teacher, one of the last first-language speakers of Lushootseed, actually practiced this with him during their time together. He said, "We recognized that that would be one of my jobs when she passed away [...] and so she actually trained me and had me practice creating new words. You know, driving down the freeway, 'how would you say *freeway*?'" Recording a session like this, or recording elders negotiating a new word together, would be a very helpful document for future language revitalization. As Zalmai's example shows, these conversations would not need to be exclusively in the target language, and could be opportunities for L2 learners to be actively involved in expanding the documentary record.

Teachers also identified a need for simple commands. Examples of simple commands will, like morphological analysis, most likely be included in a description of a language, but in the interviews specific purposes were highlighted. Many teachers like to teach via a Total Physical Response (TPR) style method (i.e., learning a language by commands that require a physical response: "Lift your leg", "Touch the tree", "Jump!"; Asher 1996); Annie also said that is her preferred way to learn. Simple commands will also figure prominently in the classroom language discussed above, as teachers use movement and other imperatives to transition their students throughout the day. This kind of language could be documented by staging a TPR classroom activity, or by recording a game of "Simon Says", "Hokey-Pokey" (Warner et al. 2018 also suggest this), or a local equivalent of these simple games.

Interestingly, two different teachers brought up talking to animals as language learning practice. Pam said that when she watches her son's dogs, she teaches them basic Kiksht commands like "go out", "stand up", and "speak". She laughed, and said, "It's kinda weird to talk to them in the language, [but] I said [to my husband] that we need to do a language program on the radio so we can teach our pets the language too". She might have been half joking, but this is actually a really interesting idea. Regan said that her dog listens to her practicing Ichishkiin and is "so nonjudgmental!", which is one of the incentives to practice with pets. Recording speakers talking to their animals could be a very fruitful way of documenting commands, and can provide immediate access to language for everyday practice.

4.3 Pedagogical materials All of the above discussion describes situation-specific recordings we can add to documentation projects – designing the corpus around the needed content. Another key consideration for language documentation is the packaging of the collected data, what Nathan (2006:365) calls "fieldwork *delivered to* a language community" (emphasis original) – in other words, not just the content, but also the form. Grenoble (2009:65) notes that linguistic descriptions "generally fall short of meeting the interests of language learners". Several of the interviewees pointed out the specific challenges they have faced when translating description/documentation into pedagogical form.

One of the key reasons to focus on form gets back to the problem of the unique individual. People like Jaeci, Zalmai, and Greg have advanced graduate training in linguistics, are highly motivated to revive their languages, are able to navigate academic and archival structures to glean the information they need, and are skilled at turning that information into curricular materials. They are also single individuals that sometimes feel a heavy responsibility and who have limits to their time and capacity. As Jaeci said,

[...] it's a really frustrating situation. I feel like I get in this little spiral, because I know what I wanna teach, I know what I wanna learn, I know what I wanna say. And I don't know how to say it, and I don't know how to find it. And then I'm like, 'how can I teach it?' And then I get depressed. And then I go back to animals, because I know how to say those.

Future Tututni speakers are lucky to have Jaeci working for them. Not all communities have such individuals to rely on. For teachers who want to revitalize their languages, what forms could documentary material take that would make it the most accessible for the greatest variety of people?

Enna reported that it is "not a friendly thing" to go back to old notes and recordings, searching for information. "It's a learning curve for sure", she said, "it just takes patience. And time". Judith came to our interview prepared with a written list of materials she sees that teachers need:

[...] picture dictionaries so kids can find their own words; online dictionaries, and user-friendly grammars – and "user-friendly" is a keyword there; storybooks; e-books with recorded sound; reading materials that are glossed; font-friendly devices; a rich picture card resource file; and textbooks for [L2] teachers, so that they have something to follow.

Some of what Judith mentions might be easily obtained or created from recordings that linguists standardly make – for example, audio recordings of elicited word lists can be used to produce talking dictionaries, and simple texts can be glossed for learners. The need for usable language resources for immediate application cannot be overemphasized here. None of these teachers has access to a textbook in their language, and there is very little curricular material at all to speak of. All of these teachers are creating their own worksheets, alphabet charts, storybooks, games, picture cards, anything at all that they can think of that might be helpful to learners. This is on top of their job translating the information from the linguistic data they have – again, the job of the intermediary.

Of course, linguists and other language documenters are not experts in what language teachers need, nor are they usually trained to design worksheets or write textbooks. Linguists can provide their professional expertise, as well as their familiarity with the language data (for some specific examples of how linguists can contribute to pedagogical resources, see Appendix B). But incorporating teaching materials into a design for documentation necessitates including teachers and other pedagogical experts on documentation teams. If documentation is to be "multipurpose", then it should address the material needs of future language classes, and teachers are the experts in this area of language work. **5. Conclusion** Documentation designed with these teachers in mind would look very different from the way many current documentary corpora look. As the suggestions I have made throughout this paper have illustrated, addressing the practical needs identified by these teachers does not need to be onerous to the busy documentary linguist; in fact, linguists can use the tools and skills already at their disposal, and the results will be even richer – and more usable – documentary records.

Himmelmann (2006:17) acknowledges that it is "an essential task of language documentation projects to support language maintenance efforts wherever such support is needed and welcomed by the community being documented". There are two crucial factors in achieving this fundamental goal. The first, I would argue, is to reconceptualize documentation-description-revitalization as simultaneous processes.

There is a perhaps understandable tendency for linguists working on a language project to proceed in terms of steps, with Step 1 being *documentation* (data gathering), Step 2 *description* (data analysis), and, if there are resources and time left, Step 3 might be *reclamation/revitalization* (some sort of data packaging, like pedagogical materials, perhaps). Himmelmann (2006) argues that description is an enterprise secondary to documentation, and that descriptive materials do not constitute part of the documentary corpus proper. Conversely, Evans (2008) takes issue with the idea that language documenters "should consecrate all their time and effort to pure documentary activities at the expense of preparing descriptive grammars or other reference materials" (348). Evans argues that in his experience, analysis has enabled him to identify holes in his documentary data and shown him where he needs to ask better questions. Description and documentation, if done together, can "produce advances and refinements" in each other (348).

Similarly, Mithun (2013) gives specific examples of how working with community members on Mohawk reclamation has enriched her descriptive work in the language, identifying analytic gaps as well as areas that might be difficult for learners to understand. Yamada (2011) describes documentation of Kari'nja and Jansen & Beavert (2010) describe documentation of Ichishkíin that is rich precisely because it was done in concert with revitalization. Documentation, description, and revitalization need not be three chronological steps in a linguistic process; rather, they can be integral and mutually beneficial to each other.

The second inescapable truth is that language documentation work is a team effort. Documentary linguists are not necessarily trained in language pedagogy, just as language teachers are not necessarily trained in linguistic analysis or documentation. The contention here is not that one person should be doing more of everything, though I do believe that many of the things in this article could be added to the linguist's documentary activities. The feasibility of different aspects of a documentation project depends upon the particular constellation of skills and strengths that each person brings. In the cases outlined here, the ideas and insights of the language teachers interviewed highlight what their experience and expertise can contribute to such a constellation. If documentation is meant to be both multipurpose and lasting, then the best documentation projects will have current and future users of the record as key players in the project.

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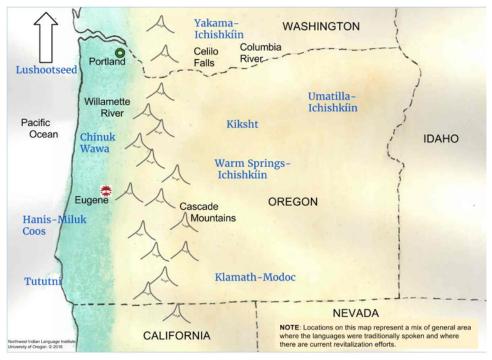
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Appendix A.

Participants in this report

Figure 1. Map of the area covered by this interview project, with languages represented in serif font (© NILI 2016)



I am very grateful to all of my interviewees,⁶ who took time out of their busy lives to answer my questions and who provided thoughtful, insightful comments.

Regan Anderson - teacher of Yakama Ichishkiin

Pam Cardenas - Kiksht speaker and teacher

Judith Fernandes - curriculum specialist and consultant for Chinuk Wawa

Jaeci Hall - Tututni speaker and teacher

Enna Helms - Hanis-Miluk Coos speaker and teacher

Annie Kirk - Umatilla-Ichishkíin speaker, and teacher at Warm Springs

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⁶All of the participants waived anonymity.

Janne Underriner - teacher and curriculum developer for Klamath

Jerome Viles - Chinuk Wawa speaker and teacher

Zalmai Zahir - Lushootseed speaker and teacher

Appendix B.

Some examples of what language documenters can do to help future revitalizers, based on interviews with language teachers in the Pacific Northwest

Genres and domains

- Songs
 - Record traditional songs. Songs have cultural value, but also melodies are easy to retain in memory or, as Nathan and Fang (2013) put it, they are "sticky". This makes them great language learning tools.
 - Record children's songs, which can be particularly "sticky".
 - Record lullabies or other songs traditionally sung by an adult to a child; these can be used to expose new learners to the language from a young age.
- Emotions/how to talk about interior life
 - Record answers to questions like, "How are you feeling today?"
 - Make notes of where concepts and words in English might not map exactly, or might not be culturally appropriate, in the target language.
- Teacher talk
 - Record transition time between lessons, between classes, before recess, after circle time, etc.
 - Develop a list of phrases based on teacher talk. For example:
 - * "Circle up"
 - * "Raise your hand"
 - * "It's almost time to go"
 - * "Do you need to go to the bathroom?"
 - * "Put your notes away"
 - * "Good job!"

(These examples will vary by student age and classroom format.)

- Different modes of learning
 - Record lessons from a native speaker (language lessons or in any other subject).
- Substantive conversations
 - Recordings of this type can be staged someone can narrate how to make a peanut butter jelly sandwich; two people can talk *about* a story, a movie, an event, etc.

- Everyday language
 - Record people just 'shooting the breeze'.
 - Conversations with more than two interlocutors are especially rare and can be quite valuable.
 - Having speakers visiting while doing an activity together (e.g., making a craft, preparing a meal) can make conversation feel more natural and less forced.

Genres and domains

- (Strategies for) coining new words
 - Record *how* native speakers devise new words and expressions. This could be a staged conversation between two L1 speakers, or between an L1 speaker and an L2 learner.
- Simple commands
 - Record people interacting with their pets or with small children.
 - Stage a TPR (Total Physical Response) classroom activity and record that.
 - Do the hokey-pokey with your consultants, or play Simon Says.

Pedagogical materials – some ways that linguists can contribute to collaborative production

- Lexicographic
 - Picture dictionaries, learner lexicons, online searchable dictionaries linguists with lexicographic skills and inclinations can play a key role in developing these; linguists can use corpus-building skills to make online dictionaries organized and searchable.
- Multimedia
 - "Talking cards" with pictures linguists can provide a wordlist to go with a set of photos.
 - E-books with audio linguists can edit and supply high-quality audio recordings.
 - Reading materials with glosses linguists can help to gloss.
- Analytic/pedagogical
 - Pedagogical grammars linguists can work with teachers and other community members to turn their descriptive analyses into accessible learning materials.
 - Textbooks for L2 teacher-learners curriculum designers and textbook writers will rely heavily on the data and the understanding of language that a linguist can provide (for an example, see Speas 2009).