New Technologies, Same Ideologies: Learning from Language Revitalization Online

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Ease of access, production, and distribution have made online technologies popular in language revitalization. By incorporating multimodal resources, audio, video, and games, they attract indigenous communities undergoing language shift in hopes of its reversal. However, by merely expanding language revitalization to the web, many language learning websites often include already existing language ideologies seen in existing resources. Many of the ideologies reported for Native North American languages can be harmful to language maintenance. In particular, such problems as limited social ecology of language use, elder purism, reliance on memorization, and others have been widely reported to be the "stumbling blocks" in language revitalization. Through examining different types of Algonquian websites, this study demonstrates that these language ideologies are not unique to classroom instruction but often are reiterated online. The unique advantage of the online resources, however, is their flexibility and diversity which allow language revitalization workers to implement many different instructional designs. In appealing to different types of learners through using various types of language instruction, some online language learning resources can not only diversify language learning but also re-contextualize the indigenous language. The online space becomes a useful tool for supplying alternative teaching materials, histories, and contexts. Through such representation of the language, this study argues, online language revitalization can engage a wider audience and fulfill the goals of cultural revival. This study recommends broadening the contextual instructions, various procedures, and including more language learners in the creation of the materials.

1. Introduction[1] In the context of language revitalization in North America, several language ideologies are reported to impact language maintenance. The widespread ideology of "elder purism" demonstrates how generational inequality in speaking the language can stop language transmission. Consequently, the authoritative role of a fluent speaker, or a "language keeper", allows them to correct the mistakes of younger speakers and even prevent them from acquiring the heritage language (Anderson 2009; Field 2009; Bunte 2009; Loether 2009; Meek 2010; Moore & Hennessy

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[1]This study was a part of my Master's thesis project which would have not seen the light without the guidance and support of my advisor, Dr. Andrew Cowell, as well as thoughtful comments from my committee members, Dr. Kira Hall and Dr. David Rood. My brief interactions with Margaret Noodin during the 2013 LSA Summer Institute were very helpful in contextualizing this project, so I thank her. I also would like to extend my gratitude to my colleagues at the University of Colorado Boulder, Richard Sandoval, Velda Khoo, and Marcus Avelar, for their generous help.

2006). In addition, the heritage language becomes associated not only with the elderly members of the community, but also with history and the past: if the learners only hear their language being spoken by the elderly folks and only concerning the topics of the "traditional" culture and history, they also receive a signal that this language is not appropriate for being used in a modern context (Hermes 2007; House 2002). Moreover, such "ideologies of contempt" (Dorian 1998:12) are especially harmful for their attribution of market value to language and language speakers: restricted access to the language can lead speakers to enjoy the status of rightful owners of the language who then are able to profit from it (Bunte 2009). Already within the framework of these connected language ideologies, one can expect potential issues in language revitalization based on the connection of the language and elder identity, traditionalism, limited ecology, and unfair market representation. In particular, previous research on this topic demonstrates that these ideologies become detrimental to the success of language revitalization practices, delaying them and canceling out successes (Loether 2009).

While language fluency among elders can be economically beneficial to them, it also helps to reify the language and eventually limit language use to a small set of contexts. Without active development of new social ecologies in which the language can be spoken, language is not being used to actively produce meaning, and is essentially learned passively in classrooms. As Bunte (2009) shows, the consequence of such a language ideology is not only the failure to maintain the language, but also the shift to the dominant language which offers a more comprehensive context of use. Similarly, the use of the dominant language for instruction of the heritage language is a problem frequently encountered in revitalization programs. Hermes (2007) suggests that to combat this, language revitalization needs to focus on making the heritage language a medium of instruction rather than its content. Ultimately, approaches to teaching the heritage language often present it as an object of knowledge accessible by such learning methods as memorization and word-to-word translation (Anderson 2009; Hermes et al. 2012). This ideology of universal "synchronic" translatability limits language productivity, transforming the idea of a language into a code divorced from its social context. In other words, many language ideologies associated with language revitalization occur due to the limited social ecology of such languages and the employment of weak learning techniques, both of which can be combatted by the acceptance of language variation (Kroskrity 2009) and change (Field 2009) as well as by development of new social contexts for language use.

From this point of view, online technologies are often perceived to be a panacea against these language ideologies. Being "newer" methodologies, online resources can supposedly bridge the gap between elder speakers and younger learners (Moore & Hennessy 2006). Because creating language learning resources online is easy, convenient, and very cost effective, web technologies are considered the new frontier of language revitalization (Galla 2009). However, this new medium offers few new and unique methods of language learning and language transmission (Clark 1994). Troubles with resource creation online often mirror the problems experienced in the classroom. With their incorporation of new methods of language instruction, online

resources are expected to assist active language production by steering learners away from memorization. The accessibility of such resources eventually makes them available to all language learners (Eisenlohr 2004), including, but not limited to, the adult learners of the language within the native[2] community (Outakoski 2013). In addition, without the emphasis on sociocultural heritage, online language revitalization efforts become susceptible to harmful language ideologies which may hinder language revitalization. In fact, as this paper argues, many online learning resources feature the same, if not additional, language ideologies observed in the language classrooms, which calls into question the benefits of using these technologies.

In this article, I examine several Algonquian language learning resources to see how the new technologies support language revitalization, and how these stumbling blocks can be avoided. The analysis of these resources is based in part on Computer-Assisted Language Learning (CALL) methodology, and, in part, on the methods of discourse analysis: I analyze the techniques and procedures used in the development of these resources as well as their ideological implications. The study demonstrates that these resources are prone to employing the same language ideologies as discussed above, and offer very few unique ways to surpass them. Nonetheless, I argue that restructuring the content of online revitalization materials to account for community-specific needs and capitalize on three particular features of online resources positions them as tools with high potential for language revitalization.

In this paper, I first introduce the websites used in the data analysis and outline the theoretical background for this research. My analysis is divided into three main sections corresponding to the type of website in question according to the CALL classification. The discussion section summarizes the findings of the study and makes further suggestions for the use of online technologies. Investigating the possibilities of language revitalization online, this analysis also summarizes some helpful techniques that can possibly be used to avoid harmful language ideologies, and provides an overview of helpful organizational and presentational features. Rather than offering an ideology-free approach to language learning, this paper is concerned with avoiding those ideologies that have been shown to be detrimental in language revitalization. The main argument of this research elucidates some problems of relying on web technologies for language revitalization, as well as inspires community members, teachers, and linguists to explore new forms of exciting language learning resources.

2. Data and methodology   Almost every Algonquian language has its own language learning website, and several of these stand out as the most developed in the context of language revitalization. For this analysis, I chose websites that not only provide background historical information on the language and the nation, but also offer language learning resources (see Table 1 for the list of the resources in question). In particular, the online resources created by Marie Odile-Junker (marked with asterisk) provide a variety of techniques and approaches used for language revitalization in

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[2]In this article terms *indigenous, native*, and *aboriginal* are used interchangeably to refer to the peoples and communities with a continuity of existence and identity that links them to the communities, tribes or nations of their ancestral past.

Canadian aboriginal communities. I critique and analyze these online resources using Computer-Assisted Language Instruction Consortium (or CALICO) methods in order to suggest an appropriate model for further development.

Table 1. Algonquian language learning websites

Facilitative websites	
Aboriginal Language (Mi'kmaq)	www.firstnationhelp.com
Cheyenne Dictionary	www.cdkc.edu/cheyennedic-tionary/index.html
Doug Ellis Audio Collection*	www.spokencree.org
Learn the Shawnee Language!	www.learnshawnee.com
Lenape Talking Dictionary	www.talk-lenape.org/index.php
Menominee Language Institute	www.menomineelanguage.com
Mohegan Language Project	www.moheganlanguage.com
Passamaquoddy-Maliseet Language Portal	www.pmportal.org/splash
Collaborative websites	
Algonquian Linguistic Atlas*	www.atlas-ling.ca
Anishnaabemowin Everyday	https://sites.google.com/site/an-ishinaabemowineveryday/lessons
Learn Cree Online	www.learncreeon-line.blogspot.com
Learn Ojibwe Online	www.learnojibweon-line.blogspot.com
The Language of Three Fires Confederacy*	www.ojibwe.net
Ojibwe at University of Wisconsin	www.uwec.edu/ais/ojibwe/
On the path of the elders *	www.pathofelders.com
Talk Sauk	www.talksauk.com
Instructional websites	
Anishinaabemda	www.anishinaabemdaa.com
East Cree*	www.eastcree.org
Introduction to the Blackfoot E-learning Course	www.usaylearn.com
Neshnabek	www.neaseno.org
Noongwa e-Anishinaabemjig	www.umich.edu/~ojibwe/
Potawatomi Language	www.potawatomilanguage.org
Western Abenaki	www.westernabenaki.com

CALICO evaluation methods focus on three main components of Computer-Assisted Language Learning (CALL) programs: approach, design, and procedures (Hubbard 1996; Hubbard 2006). These components are intertwined and, in the most general terms, refer to usability of the resources based on teachers' ideologies of language and language learning, learners' profiles and goals, and the functions and interface of the available materials. In other words, CALICO methods allow evaluation of language learning materials not only from the point of view of techniques and methods incorporated into language learning, but also with respect to teachers' and students'

capabilities. Depending on the components of a CALL resource, it can be evaluated as to its best potential in implementation. The main purpose of evaluating a CALL program is to judge its appropriateness with regards to the target language, to find ways to implement it effectively, and to assess its degree of potential success. CALICO (2006) additionally classifies resources based on their activity types: instructional (e.g., tutorials, drills, text reconstruction); collaborative (e.g., games, simulations, discussion forums, peer group writing); and facilitative (e.g., dictionary, database, verb conjugator, spelling or grammar checker, authoring system). The features emphasized in the activities are linguistic focus (e.g., discourse, syntax, lexis, morphology, spelling, pronunciation); language skills (e.g., reading, listening, writing, speaking); sociolinguistic focus (e.g., tasks that emphasize the social work accomplished by language use); and relationship to the curriculum (i.e., supplementary, complementary, or central). Using this CALICO classification allows the comparison of different types of materials to assess the appropriateness of each website for language learning and language maintenance.

Besides evaluating the web resources based on their technological design and pedagogy, this analysis is also interested in distinguishing particular language ideologies evoked by the contents of each website. Language ideology is a system of attitudes and beliefs about a language, its speakers, and linguistic practices that has broader sociocultural implications on the speech community (Irvine 1989; Silverstein 1992; Woolard 1992). To investigate language ideologies, this analysis incorporates methods of critical discourse analysis (CDA) which allows examination of the connections between structures and strategies of discourse on global and local levels considering social and political contexts through language use (Fairclough 1992). CDA emphasizes the production and reproduction of sociopolitical relations in text and talk (Van Dijk 1997), as well as accounts for the effects that the discourse may have on the social identities that are negotiated within the domains of power and ideologies. In other words, critical discourse analysis provides a set of methods that will help to describe the construction of language ideologies attributed to learning endangered languages online. In their use of certain exercises, organization of data, or incorporation of sociocultural context, these online resources employ already existing beliefs and attitudes about learning a language. By doing so, these websites can contextualize language learning efficiently by reclaiming language ideologies or, on the contrary, can devalue language learning by recreating the negative stereotypes of what it means to be a speaker of that language. Together with the CALICO methodology, CDA helps to explore the Algonquian online resources according to the effectiveness of their instruction and resistance to harmful language ideologies.

Before I begin the discussion of these digital resources, I would like to note some technical issues persistent on all the websites. It is important to understand that studying any Internet technology presumes working with constantly changing contents. During my research, I have been noticing modifications on some websites that added lessons, games, etc., whereas other web pages were abandoned or moved to new domains. My analysis became a work in progress, and it is possible that today the contents of these websites do not match the descriptions offered here. In addition,

there are several websites that restrict public access and require users to officially enroll in classes and pay the tuition. As a result, I was able to access only the "Home" pages of these resources. Finally, all the websites exhibit some technological issues. Often the contents do not display properly, have "broken" links, redirect to non-existent pages, or simply do not work; these technical issues are unavoidable because most of these websites rely on minimal and short-term grant funds as well as volunteer help. Thus, instead of analyzing functionality issues, I will avoid descriptions of any of the inaccessible resources and emphasize the materials I could access.

3. Analysis   In distinguishing between different language learning methods used on a website, I refrain from suggesting that one procedure category is better and more productive than the other. While it may be true to some extent, it is important to also realize that each of the projects has its own desired audience with its own needs, so the materials used on these websites present the expectations of the audience's needs rather than a general set of instructions. Furthermore, these websites are created by different communities that have different sets of resources, data, and financial support available. Since the goal of my project is to examine the implied language ideologies and technological possibilities of online revitalization resources, my analysis recognizes these limitations and offers a type of critique that goes beyond what is available and focuses more on how it is implemented.

3.1 Facilitative websites   Facilitative CALL initiatives are those that only aid language learning by providing additional language materials, such as online dictionaries, databases, and audio or video collections. Such resources are usually presented as the product of language documentation and revitalization accessible with online technologies. By limiting such resources to only the tools that merely contain information, language learning is framed as an experience of memorizing the information rather than manipulating it to fit the goals of social life. Moreover, what is implied in presenting the language data in such a manner is the educational ideology that limits the language learning experience to particular spaces that exclude virtual reality. In other words, facilitative resources do not enhance language learning methods, but exploit and re-iterate already available resources and approaches. It is the nature of facilitative websites to provide materials instead of providing comprehensive instruction. Hence, some of the following criticism reflects on the type of materials rather than their instructional approach.

As for technical capabilities, the majority of the facilitative portals use online technology as a channel for distributing information. So, rather than incorporating the materials into particular pages, often the material is linked in a static format (e.g., PDF, Microsoft Word, or MP3 on a separate page) that must be downloaded before it can be used. The convenience of providing such forms of access is two-fold: on the one hand, it is much easier for the developers to upload all of the already existing materials onto their server and create links to them on one web page instead of creating multiple web pages, which can be time-consuming. However, on the other hand, learners and teachers are able to easily access, print, and distribute such materials in a

format designed for learning. For example, the *Mohegan Language Project* provides a wide range of language learning resources, often accompanied by audio, which include grammatical description of the language, conversational phrases on different topics, vocabulary lists, a pronunciation guide, songs, prayers, etc. Most if not all of these materials are offered as a downloadable PDF or Microsoft Word file, while the audio is linked to a different page on the website. Because these materials are not presented "in a bundle" (written and audio content accessible simultaneously), users must first download (and perhaps even print) these documents before they can engage with them. For some users, this could be a preferred way of accessing language learning materials; after all, it allows them to download all of the resources and distribute them as books with CDs if needed. However, such presentation can also become problematic for those learners who do not have computer and printer access and only use portable devices (e.g., cell phones and tablets). While there are a variety of different ways of presenting language learning resources, suggesting a one-size-fits-all option is rather impractical since each of the websites presumably has its own audience with differing access to technological devices. Perhaps a balanced mixture of downloadable files and stand-alone pages could be most efficient.

One repeating feature across multiple facilitative resources is the reliance on audio to model proper pronunciation. Unquestionably, using audio and video technologies is essential for learning language online; however, it also must be recognized that sometimes particular contextualizations of the audio resources can have a negative effect. So, in one of the first audio recordings for pronunciation "drills" on the *Doug Ellis Audio Collection*, the instructor explicitly states that writing is secondary in learning a language. He advises students to refrain from learning the Cree syllabary and suggests that they follow English transcriptions at first. This contextualization problematizes not only the literacies associated with indigenous languages, but also creates a particular expectation from learning the language. Consider these instructions offered for Cree learners:

> **Example 1.** An excerpt from the audio "Spoken Cree Level 1 Introduction: Background and Acknowledgements" (00:43–01:32).

> Listen carefully to the recorded voice, and mimic each Cree utterance as closely as you can. Resist the temptation to learn the syllabic system immediately. It is eye-catching, but attending to the syllabic system before you have acquired the minimal control of the language itself will simply slow down the overall learning process. Follow the transliterated Cree column in the basic conversations. But remember that even here writing is a very imperfect representation of a spoken language. The spoken word, not the transcription, is your model. The transcription is merely a guide. The goal of this course is to lead you to speak Cree and it is the spoken word which you should take as a target in mimicry.

According to these instructions, the most important part of the language learning process is mimicry. This understanding of learning focuses on correct speaking rather

than speaking as a way of producing social meaning: there is simply no room for variation and modification in mimicry.[3] While prescriptivist approaches are common in language learning environments, the denial of variation and change frames language as static and contributes to the preconceptions of standard language and lack of diversity (de los Heros 2009). Furthermore, correctness and standard variation in situations of language loss are often directly mapped onto social categories connecting with knowledge and authority, usually attributed to elderly speakers (Meek 2010). In these contexts, the appeal to mimicry and correctness perpetuates social stigmas associated with speaking incorrectly, further evoking feelings of shame.

Importantly, mimicry as a learning device is also implied covertly in the presentation of the materials by decontextualizing the vocabulary. Most of the websites categorized as facilitative provide a list of small talk sentences and phrases, such as greetings and "how are you's". While focusing on interactions is an important step in nurturing speaking abilities, the limitations of possible questions and answers prohibit learners from becoming fluent speakers without knowledge of the grammar. Some of the websites try to fill in this gap by offering some grammatical lessons. For example, *Lenape Talking Dictionary*, in addition to a rather extensive audio lexicon, provides three short grammar lessons. After covering greetings in Lesson 1, the second lesson goes into the explanation of the grammatical categories in the Lenape language and their most distinct differences from English. As a result, Lessons 2 and 3 both focus on the category of animate and inanimate in the language. Of course, animacy distinction is perhaps the most confusing one for many English-speaking learners of Algonquian languages. However, introducing it as a major category of noun grammar does not contribute to comprehensive language learning. In offering the explanations and the paradigms of animate and inanimate nouns, this website fails to discuss how this distinction is also important for other grammatical categories, such as verbs. As a result, the language is presented as a collection of memorizable nouns and noun conjugations. Meanwhile, for a polysynthetic and agglutinating language such as Lenape, the value of such a presentation is minimal since it does not introduce speaking as a part of language learning.

To avoid a potential problem of discounting the creative and combinatory functions of a language, a facilitative website has a few options that largely depend on the types of resources already available from the conducted language documentation. The most efficient way of instilling the language ideology that valorizes speaking is to include actual samples of conversations. The *Passamquoddy-Maliseet Language Portal* is a wonderful example of how this can be accomplished. This website is a collection of language documentation materials, most of which are videos of naturally-occurring conversations between fluent Passamaquoddy-Maliseet speakers. These videos are short and include a variety of topics. Each instance is transcribed and translated in English; additionally, a user can navigate conversations and listen and watch particular parts of it. The information provided for each video identifies the

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[3] Although mimicry can be helpful and even necessary in the first stages of language learning when developing pronunciation skills, what is criticized here is the implied meaning of fully copying the audio recording. I argue that it is not the technique itself, but its secondary association with correctness, that creates and supports the language ideology of proper speaking and little variation.

people and places in the video as well as the topics and the date of taping. Similarly, offering a page with traditional narratives in the language can be done instead of, or in addition to, such conversational data. The narratives stored on the *Doug Ellis Audio Collection* comprise a library of five hundred stories told by native speakers in Cree. Although the stories are not transcribed in the syllabary, nor are they all translated in English, they may still be fully utilized in classrooms: given the status of Cree, teachers using these files are usually competent enough to either already know these stories or to provide supplemental materials. While these types of natural data are not necessarily a helpful instructional tool for language learning, they nonetheless contextualize it and can supplement it by introducing a new language ideology equating language knowledge to language speaking.

Another interesting approach to contextualizing the language as a communicative and social tool is used on the *Menominee Language Institute* website. Although most of the resources on this portal are password protected, there are a few good quality videos from YouTube demonstrating the use of the Menominee language in daily life. These videos, like many other websites, include introduction phrases and commands, but the variety of video presentations demonstrates how incorporation of different possible resources engages students in language learning. One of the technologies used to create these videos is the *Xtranormal* (more recently *nawmal*) video platform which allows users to easily create short animated videos with human-like characters engaging in conversations (Figure 1). One useful feature of this software is that the user can upload an audio of a recorded dialogue in the target language instead of using a robotic English. Moreover, the program is intuitive and easy to use, so a teacher would potentially be able to give an assignment to students to create a cartoon in the target language and have several exciting learner-created videos.

Facilitative websites offer a wide variety of data and presentation; however, they show no capacity for language instruction. Most likely developed by people lacking language educational skills, these websites often copy the materials created for language classrooms. As a result, they are difficult to use independently without the help of an instructor. The design and procedures employed by a facilitative website do not demonstrate new approaches to language testing and learning, limiting their possibilities to recycling the same materials and ideologies available offline.

3.2 Collaborative websites   Collaborative resources use "mid-tech" initiatives that implement two sensory modes of input for the inclusion of more than one student into the language instruction (Galla 2009). Central to this kind of procedure are the interactive technologies that rely on multimodal input (e.g., keyboard, mouse, audio, video) allowing active language learning by means of games or interaction with the website developers. In comparison to facilitative websites, collaborative ones offer a fuller immersion into the language environment by using multimodality and feedback. Therefore, these websites are presented not just as supplementary materials but spaces for language learning and practice.

The technological sophistication of the collaborative websites varies greatly. Some of these resources incorporate simple games, others create virtual classrooms, and
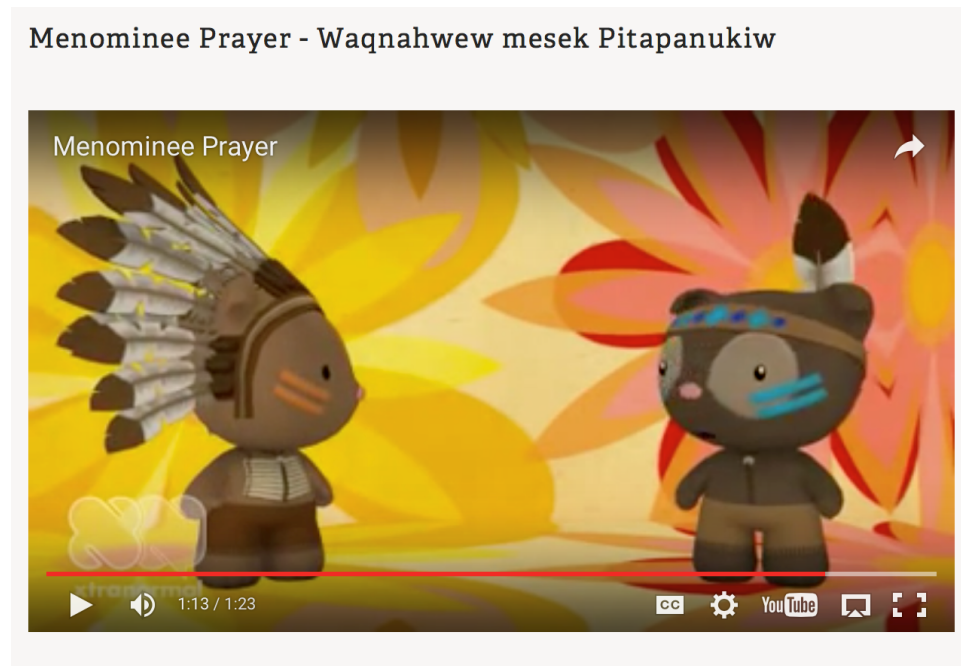
Figure 1. Xtranormal video on Menominee Language Institute

some even have a full virtual reality setup. The main appeal of using a collaborative style for language learning is that it can fully substitute for classroom learning:[4] the people who are most interested in using online technologies are those who are unable to attend regular language classes (Outakoski 2013). These can be relocated community members living outside of the community, working people who cannot fit language classes into their schedules, or people who may not have any obvious ties to this language. The continuous access to language learning that such websites offer is also conditioned by the lack of a constantly present, competent, and certified teacher, making collaborative websites very cost-effective tools in language revitalization.

Online collaboration can be achieved by granting access to several users at once to engage with the materials together. Password protected technologies can help to limit the number of people learning and interacting simultaneously to allow a controlled immersion. For example, *Learn Ojibwe Online* and *Learn Cree Online*[5] do not share any linguistic resources with the public. Instead, each user must enroll in their virtual classroom to access online video classes taught once a week at a specific

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[4]As one of the anonymous reviewers points out, previous studies of language learning technologies such as Zhao (2003) demonstrate that full substitution of a language class is merely ineffective. So, while the research shows that technologies can be helpful in language learning, additional precau-tions for classroom instructions must be made. It needs to be noted, however, that learning an in-digenous language is inherently more complicated than learning a foreign language supported by a national economy: for the low-resource languages that this study is concerned with, substitution of classroom learning is done not for the efficiency of sophisticated technologies, but for the more affordable and accessible learning that would also avoid internal political conflicts associated with language learning.

[5]Both websites seem to have cancelled their virtual reality classrooms recently.

time for free. On the one hand, this restriction helps to control the accessibility of the language and protect the knowledge. On the other hand, it also implies that learning Ojibwe or Cree needs to be approved and mandated by the "keepers of knowledge", or elders. The restriction and authorization sanctions not just the access to language learning, but also the respective roles of speakers of different fluency levels. While elders are expected to nurture and protect the language from dying, the actual reversal of language loss is credited to the younger generation. The disassociation of the respective goals between language learners and language keepers advances the language ideology of "elder purism" on the web, hindering language revitalization.

Unlike facilitative websites, collaborative ones offer some language instruction, often presented by a video. However, the content of such videos is as limited as the types of resources available on the facilitative websites. For example, *Introduction to the Blackfoot E-learning course* incorporates video tutorials of Blackfoot vocabulary and pronunciation. The presentation of Blackfoot tends to rely on individual words, and sometimes phrases, rather than content situated in sociocultural practices of the community. Limiting instruction to such unstructured examples as words for seasons and numbers narrows the language to a repository of human knowledge. Reification of a language is inevitable even with the most sophisticated online technologies as long as language instruction continues to be in English and new vocabulary corresponds to individual words and phrases often associated with history and tradition.

Another collaborative website, *Talk Sauk*, attempts to counter reification by structuring language learning in the target language. Several resources available on that website offer no English translations. So, the three interactive games on this website rely on the users' knowledge of basic Sauk words and phrases. For the "Catch and Drop" game, the learner is given a word (audio and Sauk spelling) that needs to be "caught" with a basket (see Figure 2). Without English translations, the user is expected either to know the Sauk vocabulary or to learn it by trial and error. Once the user catches the correct icon representing the word, that icon appears beside the word as a hint. In addition, some of the videos, for example the Total Physical Response video featuring children executing commands are said (and subtitled) only in Sauk leaving the meaning of the phrase distinguishable from the action in the video. Using target language for most of the resource content of the website immerses the young learner in the Sauk environment and lets them learn it by free association.

In its attempt to better contextualize Algonquian languages with respect to modernity, *Algonquian Linguistic Atlas* is an example of a collaborative website that approaches dialects of Cree, Michif, Innu, Naskapi, and Atikamekw, valorizing language variation and expanding language use. The atlas is an interactive tool in which a user can choose a topic, a phrase, and a location to hear how the phrase is spoken in a particular dialect. A pop-up legend specifies the speaker, the dialect, and the grammar differences of the dialect, while a teacher's guide supplements audio with additional vocabulary and comments on grammar and pronunciation. Trilingual (English, French and one of the dialects of Cree) resources situate language use both in traditional ("I am leaving by a canoe" or "I am going moose-hunting") and contemporary ("Can you take me to an airport?") contexts. However, some decontextualization
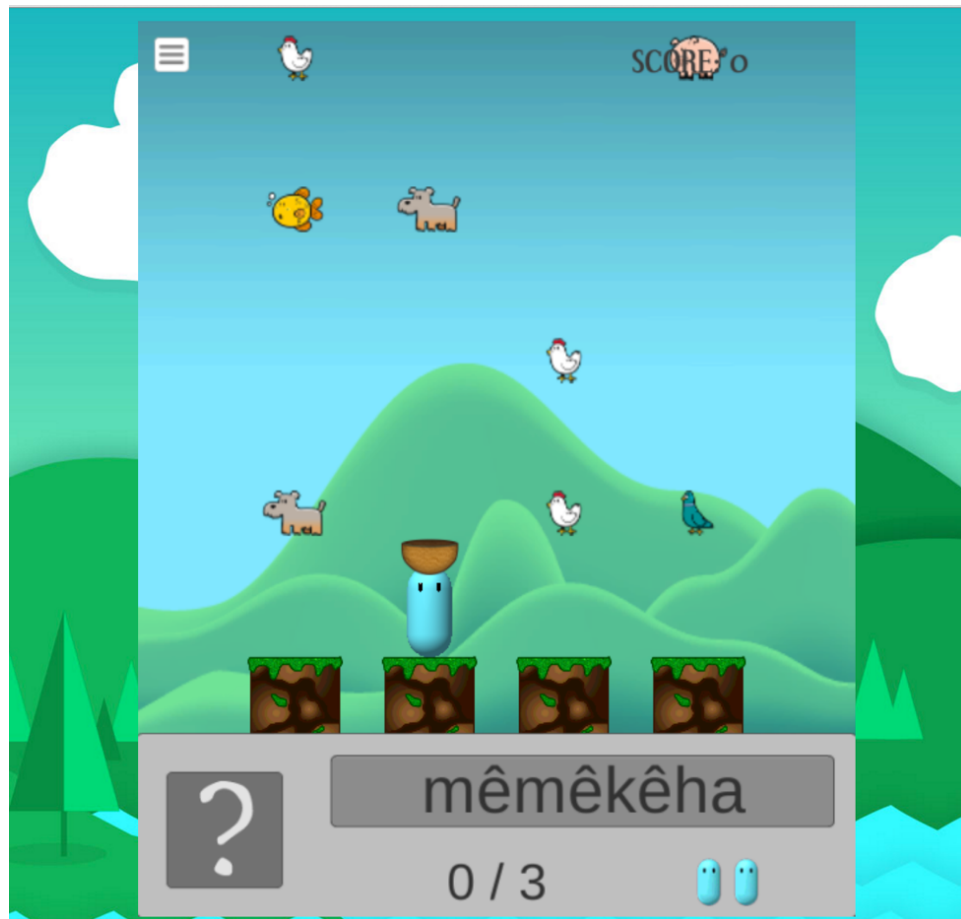
Figure 2. "Catch and Drop" game on Talk Sauk website and app

and compartmentalization of the target languages still persists: for instance, Woodland Cree's units on "Seasons", "Location and Travel", "Clothing", and "At school" are presented only as word lists without examples of possible sentences or dialogues. Even though this website provides an extensive range of examples of language in use as well as grounding languages in their sociocultural contexts, compartmentalization of some of the vocabulary categories can still suggest that some situations are best talked about in English.

The *Algonquian Linguistic Atlas* is designed for a fluent speaker to explore differences in dialects of neighboring communities. Sharing the materials developed by different communities promotes language revitalization and collaboration between these communities. Besides simply sharing the existing materials, the *Atlas* engages the user by implementing multimodal resources and encouraging them to explore all the materials. The website adheres to the awareness of linguistic diversity in Canada and celebrates it by sampling each of the Cree dialects. Nonetheless, there may be an overt attempt to erase differences and emphasize homogeneity of the Algonquian

communities. Since this website features only Algonquian languages, it covertly suggests an imagined community of Algonquian speakers rather than indigenous Canadian peoples. Perhaps this is a trend toward linguistic homogenization among Cree speakers achieved using the data and lessons from this web page. By countering the ideology of linguistic homogeneity, the atlas focuses on language use and language variation as necessary skills of fluent speakers.

Created by the same developers as the *Atlas*, *On the path of the Elders* is another interactive website that uses language to contextualize history. Although not a language-learning portal, *On the path of the Elders* teaches the history and culture of the Mushkegowuk and Anishinaabe people by incorporating their traditional languages into an interactive role-playing game. Without a language focus, the game uses Ojibwe as a medium of historical knowledge used by elders in the game to tell about the past. This game thus creates an image of the Ojibwe language as an echo of the past, as a style of tradition, and as a voice of the elders. This representation associates linguistic tools with social behavior and even social identity. Reserving speaking ability for one social group restricts knowledge of the language only to those people and creates disaffiliation between community members of different language proficiency levels, which can be turned around by extending contexts of language use to some contemporary domains (Field 2009). This example illustrates that subtle language ideologies of elder purism can be present in the materials that only use language to create a certain ambiance and may reflect the ideas of the language in the community.

Unlike facilitative resources, the collaborative ones engage students by testing their linguistic skills with the help of games and quizzes. Importantly, by incorporating different learning techniques, contextualizing language in its sociohistorical context, and presenting and valorizing variation, these websites actively combat harmful language ideologies. They frame language learning in interpersonal collaboration. Integration of virtual reality is shown to be beneficial for the substitution of classroom instruction (Outakoski 2013), meeting the expectations of adult learners as well as children, grades five through ten. Nonetheless, I have not yet found sophisticated language games where a player may fully immerse themselves in the game and the language, as it was reported for Sami and their virtual portals for substituting classroom instruction (Outakoski 2013).

3.3 Instructional websites The final category of websites refers to those that offer a plethora of approaches, and focus on instruction of the language rather than facilitating classroom learning. In addition to some features of collaborative and facilitative resources, the contents of instructional CALL resources include explicit teaching in the form of language tutorials, such as grammar and conversation lessons, pronunciation drills, and text reconstruction. For example, these websites often share audio, videos, manuals, school curricula, and digital versions of descriptive grammars, as well as various interactive games. A "Lessons" section on these websites offers a variety of language instruction materials previously developed by the community or linguists addressing some of the basics of conversational phrases (e.g., greetings), basic vocabulary for nature, food, clothing, etc. While this selection is standard across

the websites, some additional topics may include hunting and fishing, and sometimes vocabulary for new technology.

Examples of using interactive technologies come from the *East Cree* and *Anishinaabemda* pages, where games divide the vocabulary into thematic units such as transportation, birds, clothing, weather, shelter, shopping, etc. These units also incorporate some of the grammar of the Southern and Northern dialects of East Cree and Ojibwe. For example, in the unit for transportation, the objective of the game is to memorize the animate and inanimate grammatical distinction in this semantic category and choose a correct form of the verb to match the noun. Some of the games are story-games without translations that tend to review the student's understanding of previous units and to practice vocabulary and grammar by filling in gaps in the text. Nonetheless, these games provide an opportunity to contextualize users' knowledge of individual word lists and grammatical rules, and possibly use it in composing texts and stories.

This emphasis on portioning the language into individual themes reinforces compartmentalization of the native language, suggesting that speaking may only happen in these contexts. This is a very common instructional practice that can be observed in virtually any revitalization materials (Meek 2010; Hermes 2012). On the one hand, compartmentalization is a common approach in many second language acquisition methodologies that allows teachers to introduce vocabulary and grammar relevant to a particular thematic category. On the other hand, in language revitalization discourse, compartmentalization does not achieve the same educational goals due to the lack of learning resources: the vocabulary introduced in these units does not repeat anywhere else, and students may get an idea of exclusive use of the language in these specific contexts.[6] In other words, compartmentalization of vocabulary is an overwhelmingly common practice connected with the attitude of using ancestral language only in specific ecological contexts (cf. Mufwene 1996).

Both websites are striking examples of using a large variety of digital instructional methods and designs for the purpose of language revitalization. The range of vocabulary creates a context for using Cree and Ojibwe in a range of situations without limiting it solely to more traditional domains. Of course, the endangerment status of Cree and Ojibwe is slightly better than the status of Blackfoot or many other Algonquian languages, which allows the developers to create materials specifically for language maintenance and tailor them for speakers of different levels. Some Cree and Ojibwe websites do not provide translations in English, and some even have bilingual interfaces. The option to change the interface of the website to Cree on *East Cree*, interactive games testing learners' knowledge of vocabulary items, and the ability to form full sentences are beneficial in creating a connection between the language and different social domains of interaction. *Anishinaabemda* also provides some information concerning the creation of new words for technology, and even gives examples of phrases that may be used on the phone while leaving a voicemail.

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[6]While the problem of compartmentalization can be either indicative of poor instructional design or of an early development stage of these materials, it is pervasive in all resources I have examined in my analysis, indicating a strong pattern of preference for such an approach.

The inclusion of the community is achieved by incorporating social features such as "Forum" and "Guestbook" tabs as well as the "share buttons" for social media. Information about upcoming language camps for Ojibwe also generates opportunities for acquiring language in an organized setting with other students. The goal of becoming a fluent speaker is common among users of these websites, and options for getting in touch with other learners can have a positive effect on the language learning experience. In general, emphasis on community involvement encourages language learning in the creation of additional social domains for language use and contributes to re-contextualization of the traditional language. Framing a website as a resource created by and for the indigenous community acknowledges the main needs in language revitalization, as well as asserts the indigenous authority in this enterprise.

The biggest drawback of these two websites is the limited topics of stories, read-alongs, sing-alongs, and grammar games. Specifically, these pages do not provide examples of Cree and Ojibwe in contemporary conversations (except for voicemails), and may include references to social configurations, contexts of language loss and re-vitalization, or intercultural communications. Of course, an argument against this approach can be the fact that most of the language resources on this website are oriented towards younger learners; nonetheless, omission of such context may strengthen the ideology of past-ness, which cannot be restored even with the most technologically sophisticated learning games.

Limitation in language use contexts essentializes language learning to memorization of specific words or phrases, and can be found on Potawatomi language websites, such as *Potawatomi Language* and *Neshnabek*. In fact, in its children's section, *Neshnabek* provides such resources as children's songs and PowerPoints with the vocabulary limited only to animals, colors, and numbers. Additionally, it also has a section of words and phrases for counting money, fishing, and hunting with some instructions on subjugations. Similarly, in its "Lessons", *Potawatomi Language* gives partial instruction on grammar with just a few examples and no means of exercising that knowledge. Both websites also have a section restricted to enrolled students of the language, so *Neshnabek* has online classes at $10 per week or $40 per month. Online classes meet regularly and are taught by means of a podcast. Similarly, *Potawatomi Language* offers two online classes in which language instructors closely observe the work the students do online. These classes differ in their time goals – one of them is "Learn-at-your-own-pace" and another is an 18-week course.

Another website, *Western Abenaki*, also uses podcasts for language instruction making them available to all users. Each episode of the podcast is only in Western Abenaki, but it is also accompanied by the full transcript and translation. Besides language instruction, these episodes feature traditional music, phone calls, and stories. This website explores other media for presentation of the language: there are several entertaining videos on the website that are either actual Abenaki stories in the video format, or translated video clips from popular media, such as *Princess Bride* and *Goldilocks*. Using the indigenous language in these video clips is not just entertaining and educational, but also represents the social work of raising the status of

the indigenous language. Re-contextualizing language use, the creators of this website demonstrate that there are no limits for speaking Western Abenaki and that it can compete with English.

Similarly, the *Noongwa e-Anishinaabemjig*[7] employs vocabulary, songs, and pronunciation variation to also re-contextualize use of Ojibwe. The "Lessons" feature examples pronounced by three different speakers to demonstrate that words and phrases rarely sound the same even when a standard is given. The lessons additionally cover current social events and issues such as American holidays (Halloween, Thanksgiving, St. Patrick's Day), politics, dating, and powwows. Besides traditional songs from powwows, "Songs" features a number of popular American tunes translated in Ojibwe. Despite the fact that more contemporary linguistic resources are still scarce, authors appeal to the language as a possible tool for accomplishing social work and broadening potential contexts of this language for its learners. This is also achieved with public advertisements of these web resources that allow users to "share" their favorite pages on social media. In other words, *Noongwa e-Anishinaabemjig* offers an approach to using web resources that involves the community and extends language learning to broader contexts.

The variety of procedures and design towards a larger community structure the instructional websites to expand and re-contextualize target language use. The inclusion of the indigenous community in developing and maintaining these resources not only spreads the awareness of their availability, but also combats the utilitarian features of language ideology by turning language learning into a communal experience. By switching the focus of the language instruction to the goal of competent communication, these websites also resist the ideology of limited contexts for speaking the target language. Even though some of the same language ideologies are involved in the presentation of the revitalization materials, framing it in the modern indigenous experience valorizes language revitalization as a form of indigenous resistance (Hermes et al. 2012) rather than a collaboration with expert linguists.

4. Discussion   Despite the new sophisticated medium of language revitalization online, the language learning websites examined here demonstrate the same adherence to endangerment-related language ideologies as any other resources. For example, even though a multilingual interface can be easily achieved online, most of the language instruction and presentation still happens in English, leading to objectification of the target language. An additional emphasis on memorization of isolated vocabulary, as well as limited contexts of language use, further reinforces language reification, thus strengthening the association of language use in narrow contexts. While, again, these approaches merely demonstrate a poor instructional design, their reiteration across different web platforms also proves them to be popular with designers, who may not have considered the harmful effects they may have on language learning. The websites that avoid this issue contextualize the information in a cultural framework

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[7]This website has not been updated since 2013 after Ojibwe classes at the University of Michigan in Ann Arbor were cancelled (personal communications with Margaret Noodin, February 7, 2014). The majority of its content has been moved to *The Language of Three Fires Confederacy* (www.ojibwe.net).

which references tradition and history by means of oral narratives. However, this also grounds the language in a "heritage" ideology of unchanging character. At the same time, some design and procedures of online learning set forth examples of combatting harmful ideologies. For instance, by re-contextualizing language use, some of the websites demonstrate active rejection of the utilitarian ideology and ideology of contempt. One of the Ojibwe web pages and the *Western Abenaki* portal steer away from these ideologies by including modern narratives: contemporary songs in Ojibwe and short video clips in Abenaki demonstrate the possibility of using the indigenous language in modern discourse as well as directing these learning resources to the needs of the community. Similarly, by incorporating online materials into a classroom curriculum, teachers are able to resist the authority of the elders in language instruction and open up the possibilities of speaking without being afraid of making a mistake. In other words, language ideologies online are not the product of design and procedures of the learning materials; rather, they are the outcome of certain types of language presentation.

Overall, the analyzed resources rarely aim at creating new language speakers who know how to manipulate language structures in the production of meaning.[8] Instead, the goal of most of these websites is to assist language learning that is initiated in class. In spite of this, it is important not to discount the social meaning of extending language revitalization on the web. I suggest that there are three key features that distinguish online language learning resources from any other media: 1) access, 2) prestige, and 3) sovereignty. Relying on these features, negative language ideologies can be avoided and re-appropriated online, promoting language revitalization.

First, the accessibility of the online data is what has popularized online technologies. The problems of insufficient materials for distribution are partially compensated for by the ability to share and access online. Now, the main issue of access becomes the availability of Internet connection and electronic devices. While Internet coverage and access to computers are still lacking in many indigenous communities, use of portable devices is on the rise and many people are able to access these websites on their phones or tablets (Ka'ai et al. 2013). Using flexible technologies, or even going beyond the online technologies onto the app market,[9] may be the most efficient way of aiding language revitalization and maintenance.

Furthermore, the technological advantages of access also support learning outside of classrooms at times convenient to students. Because language learning is no longer tied to a particular time and place, the instruction can now explore topics beyond those usually examined in class, and even avoid the teacher as an intermediary between the language and the learner, bypassing language reification and cutting costs on language instruction. On one hand, online language resources present and distribute language materials often copying or even mimicking the classroom resources, while, on the other hand, they are geared towards full substitution of classroom in-

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[8]It can be argued that it is not a feasible option, but platforms for dominant languages such as *Duolingo*, *Rosetta Stone*, *Busuu* and others demonstrate a possibility of doing this.

[9]However, it needs to be noted that facilitative apps would hardly be useful for language revitaliza-tion. Rather, communities should consider app platforms that allow learning the production of meaning, communication, and practicing language.

struction, even if they are less effective. Language learners now have access not only to the learning materials, but also to language practice, since many of the websites analyzed here employ multi-modal resources such as audio, video, and interactive games available for unlimited listening and repetitions. The learners no longer need to rely on the availability of the teacher to correct mistakes or repeat a phrase, and thus they may also avoid feeling ashamed of not saying the word or phrase properly. Unlike textbooks and handouts, these multimodal learning procedures engage students in learning the language for speaking rather than learning it as a school subject or to perform well in tests, which, unfortunately, is often the case in low-resource language classrooms. In other words, the unique accessibility of online technologies also provides ideal re-contextualization scenarios for language ideologies. As long as the imperfections of computer-mediated learning and the necessity of real interactions are addressed, unlimited and equal access to the language online substitutes language ideologies of elder purism, content and utilitarianism for the ideologies of language for interaction and language without contextual borders.

Second, sophisticated technology is entangled with prestige – whether it is the prestige of helping to develop these resources, accessing them, or even possessing them as a community. Because this technology is still considered new and requires a degree of expertise, creating and having online language learning resources accumulates prestige in the form of symbolic capital. Having a language learning website brings pride to the community and reinforces feelings of the necessity of revitalization. Mention of people involved in the web project is an additional source of prestige, raising their social capital in the community by the acknowledgement of their speaking abilities and their assistance. Yet, it is not conclusive from the analysis above whether such forms of prestige indeed have a positive effect on language revitalization beyond their symbolic power. Further analysis of actual use of these websites and enhanced language learning in the community may be able to elucidate that. Meanwhile, it is still a strong support for revitalization, at least, by the means of spreading awareness of the language.

What is even more important with regards to prestige in online resources is that they raise the value of speaking among the younger generation, avoiding the complicated ideologies seen in schools. Since online (and more generally, computer) literacies are most often associated with the younger generation, such as millennials who are socialized into technology use early (Warschauer 2001), they often become the experts in developing these technologies. To some extent, the accessibility of online resources is limited only to those who know how to use it, so elder generations can be completely cut off from it. However, in the contexts of language death and revitalization, the elder generations are usually the people who can still speak the language, so they may not even be interested in using the technology to improve their fluency (Meek 2010; Moore & Hennessy 2006). This clash of technological and linguistic expertise creates the possibility of bridging the gap between the generation of fluent native speakers and the young generation of non-speakers. Using online resources for this purpose not only stimulates language revitalization among adolescents and young adults, but also reinforces prestige of the native language by re-contextualizing

it on the web. Nonetheless, it is important to remember that there may be potential resistance from the elderly native speakers who would not want to open their language to scrutiny (Moore & Hennessy 2006) online and put it in danger of further misappropriation.

As increased accessibility and prestige re-contextualize the purism ideology and eliminate the need for a costly teacher, they can also affect the involvement of elders or any other language experts in revitalization. As Nevins (2013) demonstrates with the example of White Mountain Apache, accessibility to the language online removes elders' authority in language maintenance: the control over when and how language is to be learned is minimized once enough language materials are available online. In addition, Nevins notes that language teachers and elders find it problematic that online instruction does not contextualize language learning within the traditional learning schemes, and instead focuses on the one-to-one transmission of the knowledge. So, while the online technologies promote language learning, they also complicate the relationships between the fluent native speakers and the learners. Implications of promoting online technologies in revitalization also minimize the symbolic capital of the native fluent speakers, and may lead to rejection of the revitalization efforts or even a rejection of the maintained language. The failure to recognize deeper social issues in the native community, such as multiple communities of practice producing contested language ideologies, indicates the low level of engagement with the community and with the revitalization efforts. After all, it is not quite the technology itself that drives these nested communities apart, but rather their inherent language ideologies. By embracing the technological advantages of online language learning, it is still possible to include everyone and allow internal resource management as long as it is done with respect for traditional social and educational values.

By maintaining user-controlled instructions and interactivity, websites, especially the ones based on social network platforms, are able to include the best language speakers and teachers while allowing users to focus on their own learning needs. In particular, instead of a modulated version of language learning, a website can allow a user to peek around and choose which sections are the most desirable for the learner. The elders and teachers are still able to maintain the control over what is being presented to the learners, yet the students decide for themselves how to approach it. Eventually, the biggest advantage of such presentations is the potential of enhancing the communicative language ideologies: users most likely will not be interested to see the complicated verb conjugations, but rather would be more interested to learn how to say phrases in certain contexts. Such an approach to language learning is exclusive to online technologies, as this would be largely impossible in the class setting. While in ideal situations a trained teacher would aim at creating communicative competence in students, classroom learning does not facilitate learning at one's own speed for one's own particular needs.

Finally, one of the most appealing features of online resources is the lack of censure and the possibility of creating an alternative history. Claimed as a site of resistance and survival (Hermes et al. 2012), language revitalization produces awareness of the impacts of colonial practices, letting indigenous communities lead social change. As

has been demonstrated for many of the Algonquian websites, the notes on the history and culture of the community are often incorporated into the language learning resources. This also can be the place for rejecting the dominant ideologies and reclaiming indigenous identities (Kaʻai et al. 2013). In other words, attending to language revitalization on the web opens up new possibilities for the indigenous communities to establish and maintain sovereignty. Engaging in social and political activism by the means of language revitalization can unite the indigenous identity and strengthen the community.

In addition to language instruction, many of the analyzed websites advertise community projects and events, which could be one of the platforms for sharing the message of sovereignty. Ojibwe.net is one of the websites that has realized the potential of spreading the word through language learning and was able to recruit supporters for the Overpass Light Brigade in attempts to raise awareness of the connections between "the health of the land and the health of the people." The website developers helped to translate some phrases and the song "We shall overcome" into Ojibwe. The phrases were used as signs made of lights (Figure 3) and the song was sung during the non-violent civil action protests. Because language is often the site for cultural revival and resurgence, it also can be used as a tool for leading this fight. Merging the goals of language revitalization and indigenous resistance on the web is a task that has been shown to be successful and unique (Outakoski 2013; Kaʻai et al. 2013; Moore & Hennessy 2006; Hermes 2012). As long as the production and control over online resources can stay local, the community is able to contribute to the anti-colonial resistance.

Finally, it is important to address the issue of production of these unique ways of coping with stale language ideologies. Since, I argue, there is a need for a certain degree of expertise in order to create a language learning website, the question is how the community can afford investing in an expert. Not having a professional IT specialist on the communal language revitalization team can seem like a major drawback slowing down expansion on the web. Meanwhile, it would be more important for revitalization efforts to employ a trained language professional who would be able to create effective language programs with low resources. In my personal experience, expertise in online technologies can be accumulated by exploring free and available online resources that have been shown in this analysis to be extremely useful. There are a number of free services that allow one to create and publish their own websites (some of the most intuitive of these include *Google Sites*, *WordPress*, *Wix*, and *Weebly*). There may be some limitations on features available with each of these services, which the authors of online resources may evaluate themselves. To incorporate multimedia features, the developers should consider using audio and video materials available from language documentation. Other resources can also be created online using free and low-cost technologies such as *nawmal* (or *Xtranormal* for the creation of cartoons), *Moovly* (to create short animated presentations; some features are available for free), *SoundCloud* (for free storage and easy access to audio), *YouTube* (for free storage and creation of videos), *StudyBlue* (for free creation of flash cards incorporating audio and images also available on portable devices), etc. This quick review

Figure 3. Overpass Light Brigade protest with Ojibwe signs: *Minobimaadizi* – "Live Well," *Gego googiibike* – "Don't dive into metal," *Zongide'en* – "Be brave." Courtesy of Ojibwe.net (http://ojibwe.net/events/overpass-light-brigade/)

of available programs shows that while an IT expert is ideal, anyone with minimal internet knowledge is able to produce a language learning website and learn language in the process. Tapping into the technologically literate youth should be the target in producing these resources, as having the younger generation of speakers helping with this enterprise will raise the prestige of the revitalization effort. An assignment to create a particular type of language learning resource can be given to students of the indigenous language and several useful materials can be created at once. If these students already have access to portable technology at home, their experience can greatly contribute to the goals of language revitalization. Author attribution, at its turn, can then raise the prestige of involvement in language revitalization and engage even larger numbers of learners in the community efforts.

5. Conclusion   In this article, I demonstrate the use of online technologies for the revitalization of Algonquian languages and their use of language ideologies. The variety of available resources, as well as the enthusiastic engagement with these technologies, indicate their popularity, whereas the new mediums of language learning do not always demonstrate avoidance of language ideologies specific to language revitalization. While I focused on the websites, it must also be mentioned that many commu-

nities also heavily employ social media. For example, speakers of Mi'kmaq successfully created hashtags (#lnuisi and #SpeakMikmaq) to use on Twitter, Facebook, and Instagram for short videos featuring everyday Mi'kmaq phrases and conversations. Similarly, the creators of Ojibwe.net started a Facebook page with same name to promote language learning and community events, all of which are advertised in Ojibwe. Using these informal resources is especially beneficial to the non-speaking community members, as it allows them to inquire about particular linguistic or cultural issues of other members without invoking uncomfortable epistemic asymmetries present when talking to language experts.

The analysis of existing online language learning resources shows that many of them in some way imitate other forms of language learning, either with books or in classrooms. With this they also often re-use the language ideologies learners are confronted with in class, which can slow down language revitalization and even have a negative effect on it. At the same time, I argue that online technologies are, nonetheless, unique in the way that they can potentially approach language instruction. By emphasizing the communicational features of the language, interactivity, and imitation of real life, language learning websites have the potential to further language revitalization beyond its symbolic power, something that cannot be achieved in classrooms. In developing online resources for language revitalization, one must recognize that like any other medium, online technologies are neither perfect nor uniquely efficient, and largely rely on the content rather than design. The advantages of the web resources are few, but extremely valuable in language revitalization, as they can combat some language ideologies and reinforce the value of learning the traditional language. However, in spite of the accessibility, prestige, fight for sovereignty, and the potential of combatting language ideologies, putting information online does not guarantee its proper and successful use. In other words, online language revitalization resources are also susceptible to the Google curse: there is no need to learn the traditional language as long as you can always "just look it up". In the end, the success of language revitalization online is conditioned not just by the procedures and techniques available, but by the interest in culture and language revival and maintenance nurtured through indigenous survival.

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