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Cultural Education Platform for Tewa Speakers

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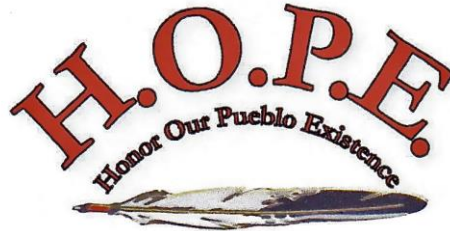
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Developing and Assessing a Cultural Education Platform for Tewa Speakers

Santa Fe Project Center

In collaboration with Honor our Pueblo Existence



An Interactive Qualifying Project Submitted to the Faculty of WORCESTER POLYTECHNIC INSTITUTE in partial fulfillment of the requirements for the Degree of Bachelor of Science by:

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October 2017

Submitted to

Professor Lauren Mathews, Worcester Polytechnic Institute
Professor Melissa Belz, Worcester Polytechnic Institute

This report represents the work of [four] WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see: <http://www.wpi.edu/Academics/Projects>.

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Editors

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Abstract

We worked with a Pueblo in Northern New Mexico that has witnessed a gradual decline in the usage of their Native language and customs. Our Sponsors fear their language and traditions are on the brink of extinction. Our project aimed to assist our sponsors, Honor Our Pueblo Existence and Flowering Tree Permaculture Institute, in supplementing the existing Tewa curriculum by developing a platform through which the people of Hopeville can learn Tewa vocabulary and begin to connect with their heritage. Our team developed a private website containing culturally relevant videos narrated in Tewa. To fully utilize the platform and increase the number of fluent Tewa speakers, the Pueblo might have to consider adapting how language is taught in the community.

Preface

The content we have analyzed throughout this project is a sensitive topic. We worked with a Pueblo that is protective of their culture, and the subject of native language acquisition is polarizing in their society. Their native language, Tewa, was written down for the first time approximately thirty years ago, and today the acceptability of transcribing Tewa is still debated. Many in the Pueblo believe that the power of speaking is much greater than the written word, which is perceived as flat and inanimate. The tribal government of the Pueblo with which we worked is a group who currently opposes transcribing the language, and believes it should only be formally taught within family households. Our sponsors wish to challenge this perspective and sought assistance with preserving their language and increasing local interest in learning to speak. Since there is a conflicting view between our sponsors and their tribal government, we have been asked to remove any specific reference to the Pueblo and the names of our liaisons from our public report. From this point, we will refer to the Pueblo we worked with as Hopeville. Our liaisons will also be protected by aliases. After the project is completed, our sponsors will present the website as a gift to their community that may be used as a resource by any member of the Pueblo. Our sponsors hope that it will start conversations within Hopeville on how to best approach teaching language and reinforcing culture.

Executive Summary

Pueblos in Northern New Mexico have witnessed a gradual decline in usage of their traditional languages and participation in community traditions. This downward trend is indicative of language shifts that are occurring throughout the world. Since language and culture are the outward expression of a society and help to define who a people are, members of the Pueblo we worked with seek to reinvigorate public interest in their lifeways before they disappear. Our project aimed to assist our sponsors, Honor Our Pueblo Existence and Flowering Tree Permaculture Institute, by developing a platform where the people of Hopeville can begin to learn the foundations of the Tewa language and connect with their heritage. Our sponsors believe that the Tewa language program currently in place at the local school reaches students too late in life. Ideally, the students would have language and culture reference materials available to them beginning at the same age they learn to speak English. By having material at a younger age, children may become more fluent in Tewa as they grow and help to save the language from extinction.

Language and culture are sensitive topics in the Pueblo, and it was repeatedly expressed to us that Pueblo outsiders are forbidden from speaking Tewa and participating in community activities. It was imperative that the platform be accessible only to members of the Pueblo; therefore, our team developed a password protected website. Our project itself is based upon writing and recording the Tewa language, which is forbidden by the tribal government. In this report and on the website we refrained from specifically naming the Pueblo we worked in or the names of people we interacted with in order to respect their privacy. Our sponsors were not confident the tribal council would be willing to allow us to work on this project, so our work was conducted in secrecy. Upon completion, our sponsors will present the platform as a gift to the community.

On the website we included historic Tewa stories that depicted various cultural activities, such as hunting, planting, and grinding corn. We researched effective website designs and

successful methods to teach language, and conducted surveys to obtain input into how well the platform we developed relayed information. The website was structured to enable additional content to be incorporated easily and seamlessly. To present the content, we created a continuous, vertical navigation layout as a way to display material while limiting the interruptions caused by navigating a typical, tab based website. According to Jerry Cao, minimal interruptions ease the presentation of long stories. Vertically-navigated sites “give the user more control over pacing and the continual immersion avoids the detrimental lag between pages” (Cao, 2015). Since we have multiple videos on the learning page, users can immediately scroll to the next video and begin watching another story without waiting for a new page to load. We incorporated imagery that was representative of the Pueblo into the videos we produced and to the overall website design. Through our interactions with members of the Pueblo we learned that family and history are important parts of their society, a fact which we made every attempt to emphasize in our development of the website. With a near complete design, we started pilot testing the website and the content. We were only able to test three groups due to the secrecy of our project. The first two groups were friends and family members of our sponsors within the Pueblo, and they gave us feedback on the overall design of the website as well as the content. The final group comprised our peers, from Worcester Polytechnic Institute, who gave us feedback specifically on the design of the website itself, as they were not allowed to see any of the material containing the Tewa language. This feedback allowed us to address several issues within the platform and improve its design and features.

Throughout our time working within the Pueblo and in our pilot tests it became clear that the children were accustomed to learning languages visually through reading and writing. Younger children learn passively, and absorb details without depending on reading or writing. Learning a language after infancy must be done consciously, and it is more difficult to gather information (Breon, 2014). Many of the older children we tested were in their teens and had been raised speaking English; they preferred to see the Tewa words written. The combination of learning styles and lack of fluent Tewa speakers (only about 1% of the population) appears to have led to the decline in Tewa speakers within the Pueblo. Our sponsors believe that their language and culture is on the brink of extinction if no action is taken. We hope that our project will inspire the Tewa people to continue fighting language extinction by reincorporating their culture into everyone’s daily lives. It is our sincere hope that our work and findings can be further developed on the HOPE webpage and utilized as a resource for the creation of more advanced language learning platforms.

Chapter 1: Introduction and Background

There are 7,097 languages in the world. Four hundred of these are major languages, such as English or Mandarin, and have around 18 million speakers each. The remaining 6,697 languages, such as Native American languages, have on average fewer than 700 speakers each (Simons, 2017). Each of the 7,097 languages corresponds to a unique group of people that uses their language to convey thoughts, emotions, and ideas. The language of a community serves to create a unique atmosphere that is different from that of other communities.

Many small groups of native speakers across the globe struggle to keep their language alive. Native Americans have especially struggled to maintain a critical number of native fluent speakers that can pass the language on through generations. The Tewa are a group of Indigenous people who speak Tewa. Currently their language is moving towards extinction. The Hopeville Pueblo in New Mexico in particular is being proactive in keeping its Tewa language and culture alive and exploring new ways for community learning. Our sponsors asked us to help develop a platform for Tewa language learning that can help residents of the Pueblo not only practice Tewa but also re-engage with traditional practices of the community and culture. This chapter explains the issues of language loss, a brief background of Hopeville, different cultural preservation efforts, and finally the goal of our project, which includes the sponsors we will be working with.

1.1 Language Shift

When a language is used by a decreasing number of people, it has the potential to become extinct, or die. The most common measure of a language death is when none of the native speakers continue to speak it anymore (Crystal, 2000). When linguists declare that a language is at risk of dying, the likelihood of it returning is minimal, making it difficult to fight the declining trend (Fishman, 2001). Supporters of language preservation, such as Michael Zimmerman, Ph.D., director of The Clergy Letter Project, warn of the devastation that results from a language death: “we lose the worldview, culture, and knowledge of the people who spoke it. When [a] language...goes extinct, the rest of humanity loses their knowledge of [their] environment, their wisdom about the relationships between local plants and illness, their philosophical and religious beliefs as well as their native cultural expression” (Zimmerman, 2016). It is not merely grammar and spelling that disappear with the loss of a language, but the ideology that helped to sustain a society as well. Language in itself forms the basis of many components of a culture, such as writing, stories, and phrases. For example language can contain “more abstract concepts like *Ilooibaa-áyya’shahminattook*, the lyrical Chickasaw word meaning, ‘we used to gather together regularly, a long time ago’” (Arnold, 2016). That is why language is so important to culture and often a good indicator of whether or not a culture is at risk of being lost.

As mentioned earlier there is a wide disparity between the number of speakers and the number of languages. Many of the languages with the fewest speakers face extinction by the end of the century, and many additional languages will be at risk of extinction at that time (Simons, 2017). The underrepresentation of language diversity around the world is due to what is known as a language shift. A language shift is where a traditional language is abandoned in favor of a more culturally dominant language (Language Shift, 2017). This leaves fewer languages across the globe as certain dominant languages take hold in more places. Dominance is often attributed to languages that hold political, economic and cultural ubiquity such as English.

From colonial times, English was introduced across the world by the British Empire (Kachru, 1990). Since that time, former British colonies, such as the U.S., now have far-reaching

influence which results in the spread of the English language. The influence of these now powerful countries has caused English to be recognized as a sign of modernization for non-native English speakers, allowing for success and mobility within our complex modern society, particularly within the commercial sphere (Kachru, 1990). Language shifts of this kind extend beyond just one example, and as a result we see culturally dominant languages, such as Mandarin and Spanish, being taught around the world because they are two of the most widely spoken languages (Mansfield, 2014).

1.2 Pueblo History

For some communities, transitions to English were unavoidable. In Native American communities, language shifts were enforced by the U.S. government during the late 19th and early 20th centuries (Little, 2017). Government policies attempted to forcefully assimilate the Native peoples of North America through the prohibition of traditional religious ceremonies and the forced enrollment of Native children in boarding schools (Klug, 2012). In school, children were forced to speak English, and were punished for speaking their traditional languages. The schools also mandated that the children abandon their heritage and adopt American practices, such as Christianity. Americanization policies continued until 1990, and ended with the Native American Language Act, which states that “the status of the cultures and languages of Native Americans is unique and the United States has the responsibility to act together with Native Americans to ensure the survival of these unique cultures and languages” (S. Rep. No. 101-477, 1990). However, the Act did not come before severely stunting the ability of native peoples to educate future generations with tradition and language (Klug, 2012). Remnants of this system are still evident, especially with respect to language.

Pueblo traditions and language trace back over a millennium to the region now known as the Mesa Verde World Heritage Site in Colorado, which served as a point of origin for the many indigenous groups we know today. By the year 1300 A.D., the many communities within the Mesa Verde and the Chacoan regions of New Mexico had dispersed in search of new homelands, eventually spreading throughout North-Western New Mexico (Jarus, 2017). To this day, many communities have similar yet distinct cultures. The ancestors of Hopeville first resided in the Buckskin Village as early as 900 A.D, carving homes into the cliffs as a means of protection from hostile tribes and wildlife in the area. Historians believe that they migrated out of the cliff dwellings and into the river basin below around 1300 A.D in order to sustain a larger community with a greater agricultural demand (Kilroy-Ewbank, 2015). Shortly after relocating, they met with traveling Spaniards.

When Spanish conquistadors first entered the Southwestern region of the United States in the mid-16th century, a crisis of ideals culminated in the pueblo culture that exists today. According to our liaisons, the original inhabitants followed the laws of nature, seeing themselves as part of the land and not as owners, and as such did not mandate deeds to validate their holdings. The Spanish established a traditional Western government and took control of the land, as they believed in documentation as legal proof of ownership. Christianity was introduced by the Spanish, and it maintains a large following, despite its brutal establishment in the non-violent Pueblos (Hackett, 2017). The structure of the church began a patriarchal tradition in the historically matriarchal societies that continues to this day, as evidenced by the all-male tribal council in Hopeville (personal communication, September 4, 2017).

1.3 Present Day

The Hopeville community is in the process of preserving its language and culture. Few members speak Tewa, their native language, fluently and many have only learned Tewa in their adult life. Many of the younger households have no experience with Tewa, and with a school language program beginning in second grade, children are deprived of the opportunity to learn at a younger age. Our sponsors would like the Pueblo children to be speaking the language of their ancestors from birth. In an attempt to prevent language and culture loss, our sponsor Honor Our Pueblo Existence (HOPE) has made efforts to promote traditions that are vital to the existence of the pueblos that are beneficial to their descendants (Cameron et al., 2017). HOPE also serves as the collective voice of the pueblos, and represents them on the state and local levels. In addition, HOPE connects today's youth with their ancestors by hosting classes in cooperation with our other sponsor, the Flowering Tree Permaculture Institute. These classes cover various cultural practices, such as traditional cooking and building construction. Our liaison, Sponsor Three helped to develop a curriculum for the local school that introduces Tewa to young children. The goal of the school is to reach total Tewa immersion by the year 2022, making the school half English, half Tewa. Collectively, HOPE, Flowering Tree, and Sponsor 3 address traditional culture, diet, and language, subjects in the community which are at the greatest risk of being lost to outside influences.

1.4 Current Pueblo Preservation Efforts

As issues such as member initiation, obesity, and language shift manifest themselves within the culture, members of pueblo communities gather in greater numbers to protect and restore their traditional heritage. Our project sponsors, along with many other members of the Pueblo, are organizing large-scale projects aimed at restoring pueblo culture within their communities. Marian Naranjo, of HOPE, invited several women from her community to build a Women's House in the same way they had historically been constructed, from the bricklaying to the plastering of adobe on the walls. Now complete, it is a sacred space used by the women who built it to grind corn and practice their beliefs. The Women's House was able to bring the community together through preserving culture, and is an example of what HOPE and others strive to achieve elsewhere within their society. Recently, HOPE has been working with Roxanne Swentzell the founder of Flowering Tree Permaculture Institute. The purpose of Flowering Tree is to research permaculture, which is a "way of looking at the world based on the laws of nature" (Swentzell, 2011). More specifically, permaculture is a form of sustainable gardening that encompasses efficient and productive resource use. Their latest project, The Pueblo Food Experience, was a way to reintroduce traditional nutrition to a population struggling with obesity. The intention of the project was to "make it as easy as possible for those interested in their cultural preservation and health to convert over to our original diet" (Swentzell, 2015). The project gathered a core group of Native participants and introduced a diet consisting of the foods that they would likely have consumed before contact with the Spanish. The results were wildly successful, and significantly decreased the negative health impacts that fast food had on the Pueblo, such as obesity and high cholesterol, triglyceride, and blood sugar levels. (Swentzell, 2014). Following the push to reclaim a traditional diet came a desire to establish a field to cultivate the historic Pueblo crops. Sponsor Five and other community members currently maintain a large field in which they grow blue corn, sweet corn, Hopi purple string beans, squash, wild asparagus, and watermelon. They grow the food using traditional Tewa agricultural practices and sell it at a local farmer's market for the community's consumption. Introducing

traditional foods is a positive step towards making the Pueblo a healthier community, while also connecting people with their heritage.

1.5 Digital Learning Strategies Applied to Hopeville

Despite the number of programs within Hopeville, there is still a great need for additional reference sources that can be used to learn more about language and culture. To create and implement educational resources, there are essentially two methodologies: active learning, which relies on group interactions to promote growth, and digital, which uses digital resources, such as the internet, videos, and online imagery. Both methods possess a number of strengths that make them incredibly valuable educational tools. Within Hopeville there are already a number of active learning environments, such as the Tewa curriculum offered in the school. Creating a database for cultural artifacts such as pictures and recordings would be able to augment the existing educational options and ultimately provide members of Hopeville with material they could enjoy and review at their own pace at any given time.

Digital learning strategies rely on the use of digital media as a means of enhancing curriculums by simulating real-world phenomena and giving students the opportunity to contextualize their experiences with the topic (Bell et al. 2014). The digital method allows for the topic of study to be shown, rather than told. Digital assets allow for students to engage content on their own terms, at any time. The flexibility of digital media helps to foster a stronger sense of security within the students, which grows even stronger when the tools for developing media are put into the hands of the students. “Students working on digital media assignments feel a deeper sense of empowerment as they act as producers—rather than just consumers—of meaning and knowledge” (Bell et al. 2014). An example of the digital approach was a collaborative effort between the University of New Mexico and the Kellogg Foundation, which sought to fight the decay of Navajo culture.

The cooperative program used the internet as a means of gathering and storing authentic Navajo cultural materials. A Navajo speaker was employed by the study to record her voice for use in the production of a language learning CD-ROM, which would allow future generations to learn their language by hearing it the way their ancestors had (Villa, 2002). The vast majority of significant cultural materials are often subject to erosion, meaning that after a time they may be lost forever. By utilizing the storage and transmission powers of the internet, this program not only protects the cultural artifacts but also allows for anyone in the tribe to view these artifacts so long as they remain in the database. Furthermore, the project also sought to empower the people of the Navajo to pursue this end in their own way by teaching them the skills necessary to collect and preserve artifacts on their own. The artifacts could be audio recordings, videos, or a number of other medium that could go on to be used as teaching material for current and future learners of the language (Villa 2002). However, much like the Mentor-Apprentice program, this program is not without its faults. The end result of this program is to provide a useful educational tool, although prior cultural knowledge is necessary. Furthermore, at this point the activity of learning becomes passive. Instead of forming your own context and experience with the artifacts, you are merely watching them or reading about them. When creating digital media, it is imperative that the product capture the attention of the students, and encourage them to become engaged and understand the material (Brame, 2015).

1.6 Sponsors and Project

The people of Hopeville are intensely protective of their culture. They intend to maintain their traditions and language so that their children can enjoy their heritage. If nothing is done now, many, including our sponsors, fear that their culture will become extinct (personal communication, April 11, 2017). Through their efforts they strive to avoid that fate, because diversity is what makes the world unique. According to David Braun, a contributor to National Geographic, it is important to save cultures and languages, because they “[codify] the history and world view of a people...every language furthers and refines our understanding of cognition, communications systems, the nature of the mind and the different ways people categorize our collective human experience” (Braun, 2009). The members of Hopeville, through preserving their language and culture, are essentially categorizing their own experience. The Tewa language is an outward expression of the values of the Pueblo, for instance, words that in English signify relationship status, such as “husband” or “wife”, are used freely among unrelated groups within pueblo communities, an act which is explained as “a spontaneous expression of a deep feeling of friendship or kinship” (Harrington, 1912). This example demonstrates the closeness to and trust indigenous groups place in members of their community, as well as their peaceful nature. This tendency is demonstrative of the foundation of the beliefs of pueblo culture, and is something that our sponsors do not wish to lose in the community. Our sponsors have asked us to help them develop a website that contains culturally significant material through which the people of Hopeville can learn basic Tewa phrases and re-engage with the Pueblo traditions.

Chapter 2: Methodology

Our project aimed to assist our sponsors in supplementing the existing Tewa language and cultural curriculum by developing a platform through which the people of Hopeville can learn key vocabulary from the Tewa language and begin to connect with their heritage. In order to accomplish our goal we fulfilled four objectives. These objectives are:

1. Understand aspects of the cultural identity of the Hopeville Pueblo so that the platform effectively connects and engages the demographic.
2. Develop a framework for the web-based platform on which to present Tewa culture and language in a manner that is culturally relevant and effective with any age group of the Pueblo members.
3. Provide a module on the web-based platform that holds culturally significant video and audio.
4. Design and implement an educational assessment for the web-based platform we developed to determine its effectiveness with our audience.

In order effectively organize our project, our team decided to conform to the Design Thinking Process. Design thinking breaks down project creation into nine basic steps as illustrated by Figure 2.1 below. The process requires the following steps to be taken (Pak, 2017):

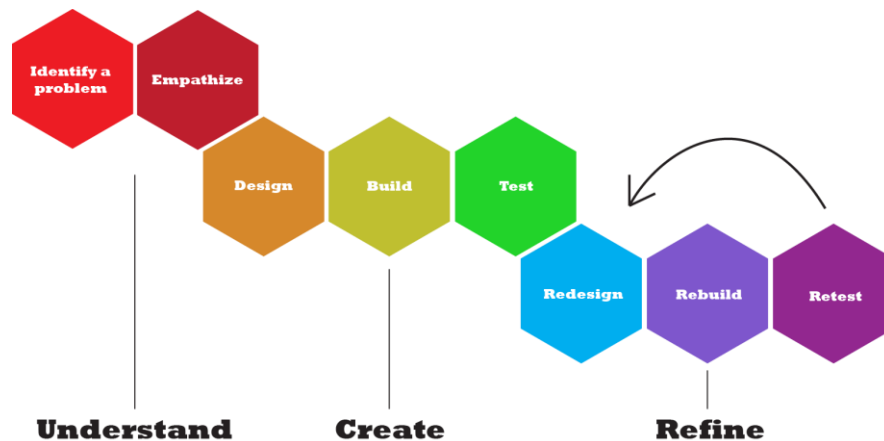


Figure 1 An illustration of the nine steps involved in the Design Thinking Process

1. Identify a problem: State the problem that is being solved.
2. Empathize: Determine what would and would not be effective for the target audience
3. Design: Thoughtfully create sketches, wireframes, or any other preliminary content
4. Build: Begin construction on the project based on the designs previously created
5. Test: Define a way to determine how effective the design is through surveys, study groups, pilot testing, or any other means
6. Redesign: Understand and synthesize the results from testing. Begin a second designing phase, using what the information gathered
7. Rebuild: Build a model using the new design
8. Retest: Once again test using the same testing techniques as in step five
9. Repeat steps six through nine for as long as time allows

2.1 Objective 1 Understand aspects of the cultural identity of the Hopeville Pueblo so that the platform effectively connects and engages the demographic.

Our intention was never to merely create a functioning website for this project. The finished product needed to be representative not only of what material our sponsors had envisioned, but the characteristics of the Pueblo itself. The platform had to serve as a showcase for the community. We wanted the design of the website to be reflective of Pueblo culture and embody the uniqueness of Hopeville. Our liaisons had a competent knowledge on relevant historical and contemporary accounts of the Pueblo, as well as an understanding of where change needed to occur in their society. When we were together with our liaisons, we often asked them for background knowledge in the form of informal interviews.

The purpose of this objective was to complete step two of our Design Thinking Process: to empathize with the community. In order to make the most effective website possible we needed first to understand Hopeville as a community and interpret what aspects of the culture were most valued. Using this information we could present a website using colors and images that would seem familiar to our users. With this in mind, we strove to become involved in the community. Upon arriving in Hopeville we were greeted with multiple requests to plaster walls, benches, or outdoor ovens because this is a common activity for the community. We graciously accepted, not only to give back to our liaisons and their friends, but because we wanted to learn as much as we could from the residents of Hopeville. We first went to Sponsor two's house where we worked alongside their family.

The next step was to meet members of the younger generation of the Pueblo. On our first day we took a trip to the local school to see where the children spent most of their day. Upon arrival, Sponsor Three introduced us to the school's principal, who proceeded to take us on a tour of the entire school, introducing us to many of the teachers on the way. The principal works with children all day and understands what they best respond to and how to most effectively reach them. He also understands the importance of bringing Tewa into the school curriculum which was evidenced by his leadership role in taking steps to becoming a bilingual school.

From our meeting with the principal, our liaison thought that giving a presentation in front of one class of students would allow us to further learn from and interact with the students. We discussed with our sponsor different kinds of presentations. After some consideration, we decided to make sandals out of leather and cords. We believed that this idea would be the best since it was the most interactive. Our liaison, Sponsor Three, and the art teacher supported our idea since the sandals are similar to what their ancestors used to wear. A member of our team had made a pair of sandals for himself during the summer, and it proved to be a fairly easy task while also being a fun exercise. The final step we took was to attend a lecture by Sponsor Four about the ancient people who populated the Americas during the Holocene Epoch. We were also able to observe Sponsor Four's teaching style.

2.2 Objective 2 Develop a framework for the web-based platform on which to present Tewa culture and language in a manner that is culturally relevant and effective with residents of any age group

Our second objective was the development of a web-based platform on which to host portions of a Tewa language curriculum. This objective correlates with steps three and four of our Design Thinking Process: Design and Build. Our sponsors decided that a web-based solution would be suitable, due to the accessibility, expandability, and functionality that it could provide. Moving forward, our aim with this objective was to synthesize our findings from our first

objective into a functioning and effective design and then platform for language education. In order to accomplish this goal, we would first need to define our manner of efficacy as a learning platform. Thereafter, we would begin developing the platform.

2.2.1 Defining Efficacy

Our process of defining site efficacy began with staging informal conversations and meetings with our sponsors. These exchanges were directed at identifying and describing a number of factors that we needed to consider as we developed the website: audience, purpose and usage, and structure. First, the site would need to be appealing and respectful to all members of the Pueblo. This means that our implementation of the website would need to possess an appealing design that was inspired by Native culture, but not a design that could be considered an appropriation. Next, the site would need to satisfy the requirements of its intended purpose. The purpose of this platform is *not* to provide the user with fluency, rather it is meant to acquaint the user with the basics of the language and culture, serving as a starting point for further development of the learner's skill. In terms of usage, this means that our design must remain simple so we do not overwhelm the user and make the learning experience intimidating or unnecessarily complicated. Lastly, we collaborated closely with our sponsors to develop a checklist for their desired features on the site so that we could begin developing frames that could accommodate their needs. A frame is simply a rough outline of where things will go and how they will work on the website. By creating a frame we could visualize certain traits of the site before development... Furthermore, these frames would meet the efficacy requirement if, and only if, they satisfied all of our requirements.

2.2.2 Developing the Platform

Once our definition of efficacy was decided on, we began step four of the Design Thinking Process: developing the platform to meet the standard we created. In the end, the platform would consist of two web pages: a splash page and the learning page. The splash page would include general information about the platform and a prayer to introduce the user to the learning experience. The learning page would include the actual educational content of the website (explained in **2.3**).

During this period, our work was mostly done in stages. The first stage focused on the abstract structure of our project, with a strong emphasis on the ease of future endeavors made by our sponsors to continue the work after we had left. The intricacies of this process will be detailed in the next subsection, **2.2B.I**. The second stage, detailed in **2.2B.II**, was a long process of brainstorming and developing the many functions we wanted to place onto the platform, including the general structure, navigation elements, and incorporating the pieces onto the pages. The third and final stage, detailed in **2.2.2.III** and again in **3.2**, involved actually drafting our designs into a functioning website.

2.2.2.I Expandability

From the start of the development process, we carefully considered expandability as an important aspect of our project; we had to leave our project accessible to future groups seeking to add to the website. A common problem with code-based projects is that they are often done by small groups with specific methods of managing the project. As a result, without knowledge of the method it can be hard to continue their work. One of our goals with this project was to structure our work such that there was enough clarity and intuitive structure to our design that

anyone with basic HTML (Hyper Text Markup Language) and CSS (Cascading Style Sheet) skills could continue our work. To accomplish this goal we applied three common organizational strategies to the project, a typical coding practice. The first was a series of descriptive comments that accompany each section of code. With this we aimed to clarify the functionality of each portion of our code in plain speech—meaning that each section is explained in very simple terms, as to clear any confusion that may arise with those unfamiliar with HTML or CSS. For example, in Figure 2.2, line 50 is preceded by a comment on line 49. That line tells the reader that the following line of code, “`$("#startButton").click(function() {`” will bind a function to the “start button” that will execute when it is clicked.

```

47 ▾ /* ////////////////////////////////// */
48 ▾ /* Add scroll animations to buttons */
49 ▾ /* Add a function to the clicking of the button */
50 ▾ $("#startButton").click(function() {
51 ▾     /* On click, animate the page */
52 ▾     $('html, body').stop().animate({
53 ▾         /* The animation will be scrolling to the top of the topmost page on the site, titled "top" */
54 ▾         scrollTop: $("#top").offset().top
55 ▾         /* The animation will be executed with a duration of animationTime, see top of page for variables */
56 ▾     }, animationTime);
57 ▾ });

```

Figure 2 Code with accompanying comments

Second, we implemented a simple organization strategy to our repository, illustrated in Figure 2.3. The root of our directory (the folder our project was made in) will house the homepage of the website, the “`index.html`” file. The language learning page can be found within the “`modules`” folder. The HOPE homepage can be found within the “`home`” folder. Any pictures or other media can be found within the “`assets`” folder. The files containing any JavaScript and CSS on the homepage can be found in the “`js`” and “`css`” folders, respectively. Lastly, any external JavaScript plugins and utilities can be found in the “`plugins`” folder. Furthermore, this organization schema has also been applied to both the “`modules`” and “`home`” directories.

2.2.2.II Functionality

Once the groundwork of expandability was laid, we then turned our attention to the overall functionality of the site, prioritizing the intended usage of the site. We needed the site to be easy to use and navigate, and to ensure that this goal was met, we began laying out a number of potential mockups, each with different styles of presenting the data and navigating the site. To do this, we began research on common design philosophies among web designers today. Nicolas Roope, creative partner to a professional website development company, says that “designers are weaning off their desire to control whole visual canvases and get excited about the more modular system” (Nichiporets, 2016). In other words, displaying less content in a sophisticated and dynamic manner is becoming a common design philosophy on the internet. We found websites such as the Android Oreo home page to be a particularly engaging and interesting example of these qualities. Because of our findings, it was our intention to design the platform as a single page, with all content organized vertically downwards on the page. Liana Preble from the Huffington Post states that “these web design trends are all in response to the

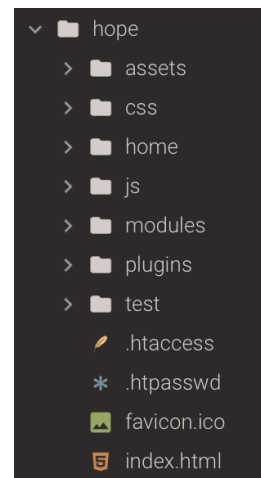


Figure 3 Directory

technologies we use to interact with, such as the laptops, desktops and smart devices” (Preble, 2016). We interpreted this to imply that if the technology we use influences the way that we perceive certain experiences, then the culture we experience can influence us as well. As a team we turned to our definition of efficacy and the results of our research and, taking those ideas into consideration, split up and created four brief mockup wireframes. Next, we reconvened and began merging our mockups, taking the features we each agreed worked best and melding them together. The result was a master frame that incorporated all of our ideas and refined them into a functional whole.

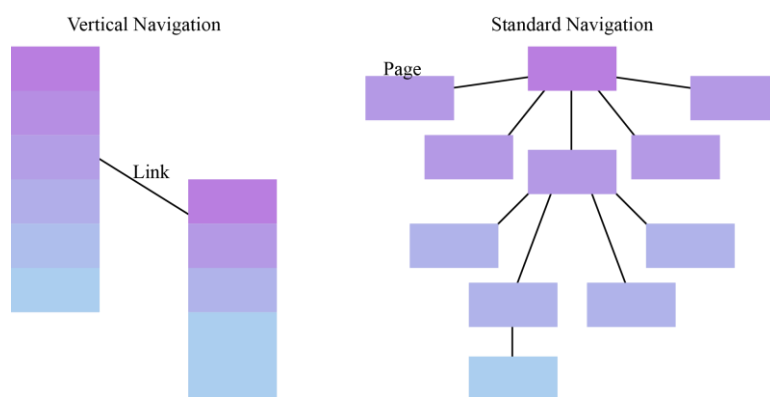


Figure 4 Vertical Navigation vs Standard Navigation Page

After several iterations, we chose a basic format we wanted to adhere to for any future iterations. We wanted to create a vertically-navigated-tree style site, meaning the major sections of the webpage would be organized vertically onto one long page rather than being placed on separate pages, requiring additional clicks to access. Figure 2.4 displays two navigation maps we drew for the homepage of our sponsors. The left image uses a vertical structure, used on the final draft of the webpage, while the right uses a standard structure. A vertical structure greatly reduced the navigational complexity of the site (the number of links required to connect every page) and provided us with a storyboard content structure, which allowed us to section and order information in one place. This strength paired well with our narrative content.

The modules we developed (described below) follow a narrative progression, and with the vertically-aligned format, we were able to place the modules so they appear in the proper sequence on the page. The modules consist of short videos pertaining to certain aspects of Tewa culture and Language. The language page, as a whole, is meant to house and align these modules in a narrative succession, with each building into the next. Narrative succession is a key aspect of this lesson plan, because each “lesson” tells part of a larger overarching story and process that holds cultural significance to the people of Hopeville.

2.2B.III Mock Ups and Iterations

With all the groundwork laid, we turned our attention to the largest part of our project: the development of a functioning web-based platform. Throughout the duration of this phase of development, we produced numerous potential candidates for our final website design, but in the end only one would be chosen. In order to ensure that the final choice was the best we could make, we began a long process of close collaboration and design, trying to pinpoint the strengths and weaknesses of each individual iteration, and how they could be melded into one cohesive whole. The first stagings of our design process were very rough; drafts were drawn on paper and left vague and open-ended. This was done deliberately because it was still a very early stage in

development and we were very cautious about settling firmly on individual features without first considering all options and deciding, through discussion within the team and with our liaisons, on the proper course of action. With the loosely-designed frames we came to understand each



Figure 6 Master Frame 1

group member's vision for the end product, and began the process of finding balances between them. Once we had shown each other our designs, we convened in order to discuss the features of each of our designs and how they could work in practice, and how they could be joined together. After deliberating for some time, we emerged with an amalgam of our ideas that we referred to as the "Master Frame" (Figure 2.5). The next wave of iterations came soon after the first, with more details and realized features based on our first wave of development and the resulting "Master Frame." These iterations were once again done individually by each team member so as to allow each individual to provide his unique creative contribution to the set of alternative designs. This allowed us to add more breadth and depth to our creative process and fully explore certain ideas before settling on which ones were more favorable. Once again, the team reviewed the mock-ups in an open forum discussion on the strengths and weaknesses of each design and its capacity for being reworked. At this point our designs had begun to develop their own unique details and styles, and thus required a good deal more deliberation to effectively synthesize them. Some merges were easily made while others were cut due to incompatibilities with larger, more agreed upon features. Regardless of these problems, we emerged with a more developed rendition of our "Master Frame" (Figure 2.6).

group member's vision for the end product, and began the process of finding balances between them. Once we had shown each other our designs, we convened in order to discuss the features of each of our designs and how they could work in practice, and how they could be joined together. After deliberating for some time, we emerged with an amalgam of our ideas that we referred to as the "Master Frame" (Figure 2.5).

The next wave of iterations came soon after the first, with more details and



Figure 5 Master Frame 2

Our third phase of the process began almost immediately after our second, and, unlike the first and second runs, was done as a group. This stage was a close, critical examination of all

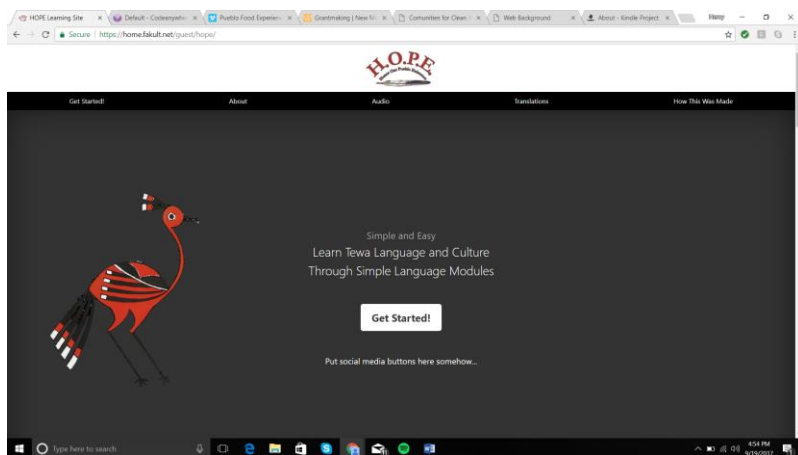


Figure 7 Master Frame 3

remaining candidate designs and their ability to adhere to our guidelines and, most importantly, our definition of efficacy. This round of discussion was notably more critical than the others, because it was this rendition that would be made into a functioning website, and become our new “Master Frame.” At this stage, we drew up two mockups to illustrate the different paths that could result in a site that meets our needs and criteria. At the end, they were each examined by all four team members in another open forum discussion, seeking to draw out each team member’s opinions on what made the iteration strong or weak. The design we decided upon can be seen in Figure 2.7.

With the new site being made, we began to enter our fourth and final stage of development. This stage was even more critical than the last, because we would be relying on external feedback from a number of people related to the project. However, before testing our mockup we would first need to make the site fully functional, meaning that all the pieces would need to be operable. With the new site being made, we began to enter our fourth and final stage of development. This stage was even more critical than the last, because we would be relying on external feedback from a number of people related to the project. However, before our first test we would need to make the site fully functional, and so we began bringing our “Master Frame” to life. The translation process of the “Master Frame” into the website was fairly smooth and was executed with ease by our team.

To better utilize our time, we decided to split up the work by having two of our members develop the website and the other two develop the videos, which are detailed in the next section. At this stage we began to make a large number of decisions on the appearance of the site. Most of the mock ups completed by this point did not focus on color scheme, so it

was at this stage where we began to consider the palette. In the end we chose a playful color scheme and accompanied that with scrolling animations using characters cut from paintings done by Pablita Velarde, a well-known puebloan artist. The most time-consuming endeavor of this phase was the restructuring of the learning page. Our original design for the learning page proved to be a bit too crowded for the format of the webpage, so edits needed to be made and the page

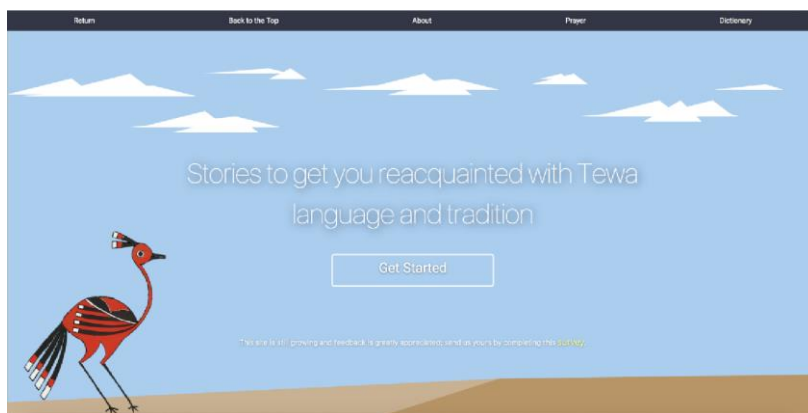


Figure 8 Final Splash Page

needed to be reformatted. Originally, we planned on having the modules be collapsible boxes that would house all the elements of that portion of the lesson. Instead, we traded this design for one that would place the portions of the modules on their own pages, properly spacing them out and removing the clutter they were creating on the screen. Once the learning page was properly formatted, everything was in place for our first round of testing.

2.3 Objective 3 Provide a module on the web-based platform that holds culturally significant video and audio.

During the development of the website we collected relevant material that was intended to serve as educational content, which would ultimately be placed within the learning page modules on the website. We created one module, or group of educational videos, for the website while in Santa Fe. Space was made for additional modules to be added by our sponsors in the future. The main task we had was recording video of traditional practices. Almost all of the raw video footage was taken by Sponsor Three, and given to us on a hard drive. In total there were 150 clips of pre-recorded footage. The footage started with scenes from nature, including corn, peaches, trees, humming birds, sunset, sunrise, mountains, rain, and snow. Much of the film contained a group of people plastering a women's house. There were also scenes of our liaisons, Sponsor Five and Sponsor Four, working on the scripts that are included in the website. The videos contained on the hard-drive were organized by date and had no available descriptions, so it was necessary to watch each one and write a key with a description of what each video contained, how long it was, and any other attribute that could be used to categorize and search for it during a later stage of the project. This was included with the material we left our liaisons for future development.

While on site we collected additional footage. We spent one day in a field behind the local farmer's market recording Sponsor Five discussing the significance of farming. Our liaison indicated that the website was not intended to highlight any one individual, but to be a tool for the people of the Pueblo and represent them as a whole. Therefore, during filming, we recorded close-up footage and still photography of Sponsor Five's hands holding various crops, rather than focusing on his face.

Ultimately, our goal was to create three minute montages with audio containing a fluent speaker narrating the scripts. In order to engage users and encourage information retention, we began research on common language learning applications and other language assessment papers. Certain systems for increasing memory retention surfaced frequently. One such method is called Spaced Repetition System, or SRS. SRS is a well-studied method for increasing retention by observing how well certain questions are answered and attempting to ask them later, right before they would usually be forgotten (Grigg, 2011). The idea is that more effort exerted in recalling information reinforces memory. We used the information we learned from this research to create the story videos. The montages were then uploaded to the modules of the website. These films were created from the footage we had taken, and also pieced together from the brief segments that were contained on the hard-drive. The process of choosing what footage to include was based on the subject of the montage. Some videos were intended to accompany project descriptions, while others served as illustrations to traditional stories. The free editing software we used was called DaVinci Resolve 14, a program that received many positive reviews from Windows users. The user interface is simple and intuitive, which is to our benefit, since we have minimal experience with video editing and producing. DaVinci Resolve 14 allows the user to separate audio from video, which allowed us to remove background noise from video footage

and pair the imagery with narrated audio files. The editing software allows for multiple tracks for both video and audio, allowing the user to overlay video or audio over another video or audio clip. Finally, DaVinci is compatible with Final Cut Pro which is the software our liaison uses to edit her videos. The many benefits it had to offer made DaVinci Resolve 14 the best choice to create professional videos.

While we were collecting and editing video, our liaisons were at work writing scripts to be read while the video played in the background. The scripts were narrations of traditional cultural practices. The three scripts created by Sponsor Four and Sponsor Five included crop planting, corn grinding, and hunting. It was important to our sponsors that the scripts contained culturally significant material in order to help preserve those traditions. There were other videos we included such as a Tewa prayer and an interview with Sponsor One describing the importance of women in Tewa society. The first iterations of the narrations were written in Tewa, which would be read by a speaker chosen by our liaisons. A second version of the scripts were prepared in English: these versions served as the basis for our editing. Once we had obtained copies of the English scripts, we were able to select what videos would suitably serve as an illustration for each story, and prepare subtitles for the Tewa-only videos. The subtitles will serve to provide a translation to non-Tewa speaking viewers, and help to accomplish our goal of making the website a learning tool that introduces the Tewa language and culture.

In addition to the films we edited, an audio file was also presented by our sponsors for inclusion on the website. This file contained a traditional prayer, and came after many attempts to find a reader who was willing, on grounds of religion, tradition, and ethics, to be recorded while reading the script. Many people in the Pueblo are opposed to recording Tewa due to impositions placed by the tribal government (personal communication, April 11, 2017), which explains the fears of the readers. The first individual we intended to employ as a narrator of the stories on the website declined to participate after much debate because she was concerned with the public reaction to the finished project. Eventually, we were successful in identifying a member of the Pueblo who was willing to record the audio for the videos. Once we were in possession of the audio recording, we selected videos that contained suitable material to serve as a backdrop to the audio files. These videos consisted of landscapes and nature.

2.4 Objective 4 Design and implement an educational assessment for the web-based platform we developed to determine its effectiveness with our audience

The content we integrated into the platform is an invaluable educational archive for the Tewa culture. The primary goal of our sponsors was to create this content and continue to develop it in the future. We realized that the effectiveness of the curriculum would be limited not only by the quality of the content, but also by its presentation in the format of an interactive website. Thus, our final objective was to develop a formal educational assessment for the platform. Following the Design Thinking Process, Objective 4 is about accomplishing steps five through nine: testing, redesigning, rebuilding, retesting, and then repeating.

Once the platform had been developed with all of our design choices, we began the pilot test assessments. We had a small number of participants available to test the website, due to the secrecy of the project. The majority of the subjects were relatives of our liaisons and sponsors. Due to the limited sample to test on and conflicting schedules, we decided upon three pilot testing methods. In the first method, we worked with a small group of participants to test the website and modules while we observed. The participants were presented with a short survey asking general questions as seen in part I of Appendix A. Then they were given access to the

website and allowed to navigate through the website to the module we had set up for testing without any assistance from us. After using the website and watching the module, we distributed a second survey (part II of Appendix A) asking them to rate certain characteristics of the website and videos using a scale from 1 to 5. Upon finishing, we held a discussion with the group with more open ended questions as seen in part III of Appendix A. We repeated this same method at later dates with the original group and with different groups after we had implemented the suggested changes.

In the second method, we sent out the link to the website along with the three different surveys to a group of participants. However, this time we were not present during testing, which allowed the participants to complete the test on their own time without any intervention or instructions from us. This method also allowed the participants to write more freely about their thoughts on the website and content without the fear of offending us because we were not present. This second method was mainly for the people who were not able to attend the previous meeting, and provided us with another opportunity to gather data.

The third method was to test our design with our fellow students working on projects in Santa Fe. In order to respect Hopeville's privacy, we did not allow our peers to watch the narrated Tewa video, and did not provide them with a separate username and password. They were given access to the entire website, but their login credentials prevented access to the video content. They could still view the Plastering Ceremonial House video in order to give them insight to some of the video editing we worked on. The full survey can be found in Appendix B and contains two parts. This was very similar to the first survey, however, the discussion and survey questions were adapted to focus on the layout and functionality of website design and less on the content. Similarly, we did not assist them in navigating the website. Testing our peers, who likely have more experience with technology compared to the average member of Hopeville, gave us insight into the technical design and details of the website. We used the results from these three experiments as input to follow the redesign and rebuild steps of the Design Thinking Process to improve the platform as described in the results section.

Chapter 3: Results

3.1 Objective 1 Understand aspects of the cultural identity of the Hopeville Pueblo so that the platform effectively connects and engages the demographic.

In this section, we discuss how our interactions with the Pueblo were incorporated into the website, and what effect they had on users. Our aim was to create a platform that seemed, in a sense, familiar to members of the Pueblo. To clarify that point, we strove to create the website so that the appearance represents the spirit of the Pueblo.

3.1.1 Information from our Liaisons

From conversations with our liaisons, we gathered the majority of our information about Hopeville and its people. Most of the information we gathered came from Sponsor Three. According to Sponsor Three, members of the younger generation fail to learn Tewa because adults no longer speak it at home. The main cause of language loss within Native American communities is a result of boarding school education initiated by the US government in the 1870s. Native Americans had to attend boarding schools which forced assimilation upon the Natives (“Challenges and Limitations”, 2001). By the time they were adults, few were able to pass on their culture and language to the youth. The devastation imposed by boarding schools on language and culture explain why only 1% of members of the Pueblo can fluently speak Tewa. There are other factors that contribute to this loss as well. Western culture is so dominant around the Pueblo that it is impossible to avoid it. Anyone who obtains an education or works outside the Pueblo must be able to read, write, and speak English. All of this has led to a lack of Tewa speakers as well as lack of interest in the traditional practices.

Sponsor One has also given us a plethora of information regarding the views of the Hopeville members. While most are Catholic, our sponsor told us they have a strong reverence towards nature and believe that there is an order to all things in this world. Hunting, farming, and weather are often the subject of their prayers and ceremonies. The people of Hopeville did not historically “own” land. Property ownership was introduced by the Spanish as part of their belief in proof and evidence to explain things. Members of the Pueblo saw themselves as part of the land, having no more claim to the land than plants or animals do. With the introduction of Western ideals, like the idea of property ownership, the people of Hopeville have lost some of their old ideals and beliefs. According to Sponsor One, members of Hopeville worry about owning land and paying rent when their ancestors were never bothered with those ideas. Even testimonies written about the Pueblo in the 1930’s describe life without outside interaction (Anonymous, 2012). Members of the Pueblo have abandoned their old diets in favor of less healthy Western diets. Sponsor Five described that people were used to eating corn, tomatoes, beans, and other crops combined with farm animals such as cow, lamb, and turkey, but that has been replaced by what Sponsor Five described as an “Americanized diet.” Sponsor Five believes the processed food members of the Pueblo now eat has led to a huge increase in diabetes cases and other health related complications (personal communication, September 13, 2017). In fact, Native American populations possess some of the highest rates of obesity of any demographic in the United States. Native American adults are 50% more likely to be obese than non-Hispanic white adults, with 43.7% of Native Americans considered to be obese (Body Mass Index greater than 30) and 28.5% of non-Hispanic whites considered obese (Center for Disease Control, 2015). Sponsor Five recalls that, as a child, his people were always outside being active. Now instead of

running, hiking, or even tending the fields, his people have been watching TV, on their personal computers, or working at desk jobs. These insights about the impacts of an Americanized diet on the people of Hopeville and other pueblos indicated to us that we needed to pay special attention to how we emphasized food and farming within the website and in our language learning modules.

Our interactions, though not directly applicable to the project as individual experiences, served to collectively demonstrate how members of Hopeville are interested in their history and the well-being of the community. To create a website that reflected that reflected the importance of cultural heritage to the community, we sought ways to incorporate pueblo design within the platform. When researching the history of the Pueblo, we found that mantas, or traditional textiles, have design qualities that we believed would be an ideal connection between the current generations and the past. We incorporated the use of heavy lines and geometric details into the borders of the website to mimic the characteristics of the mantas in an attempt to give the website the appearance that it was produced within Hopeville.

Figure 9 Our imitation of a manta

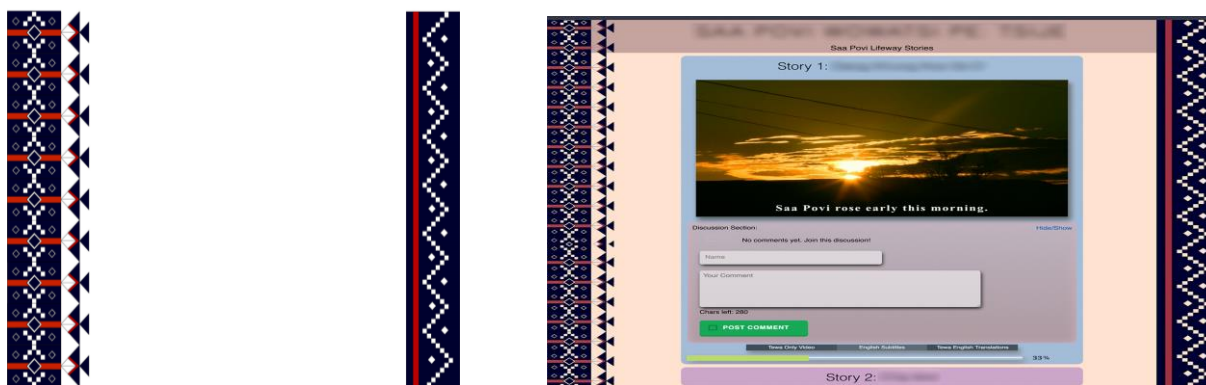


Figure 10 border design in use on the learning page

We also wanted to add Pueblo imagery to the website that would be recognizable to our users. As we mentioned in 2.2B.III, Pablita Velarde was a well-known puebloan artist that depicted many of the traditional stories our sponsors wanted to include on the platform. Our liaisons told us that her artwork depicts pueblo lifestyles similar to those found in Hopeville, so we took cutouts of animals from Ms. Velarde's paintings and animated them along the sides of the webpage. Finally after attending Sponsor Four's Native American history lecture, we learned of how ancient petroglyphs had significant historical value to pueblo members. Therefore, we used several photographs of pictograph details to illustrate the Deer Hunting story, as seen in Figure 3.2.

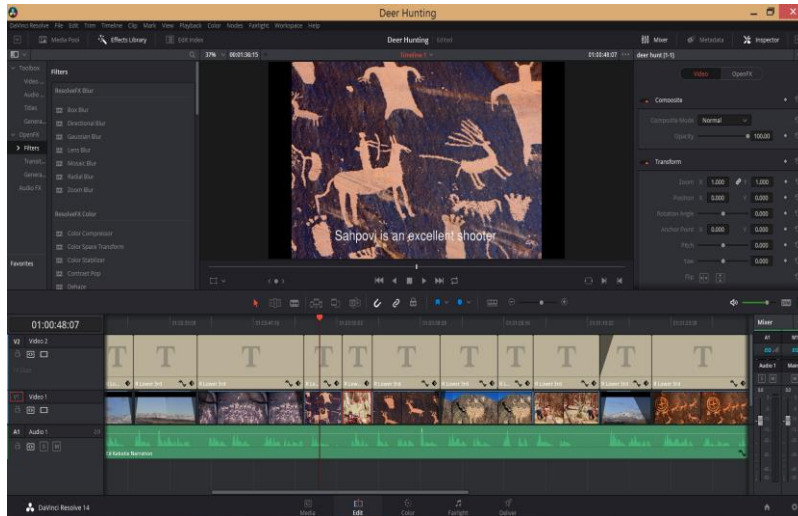


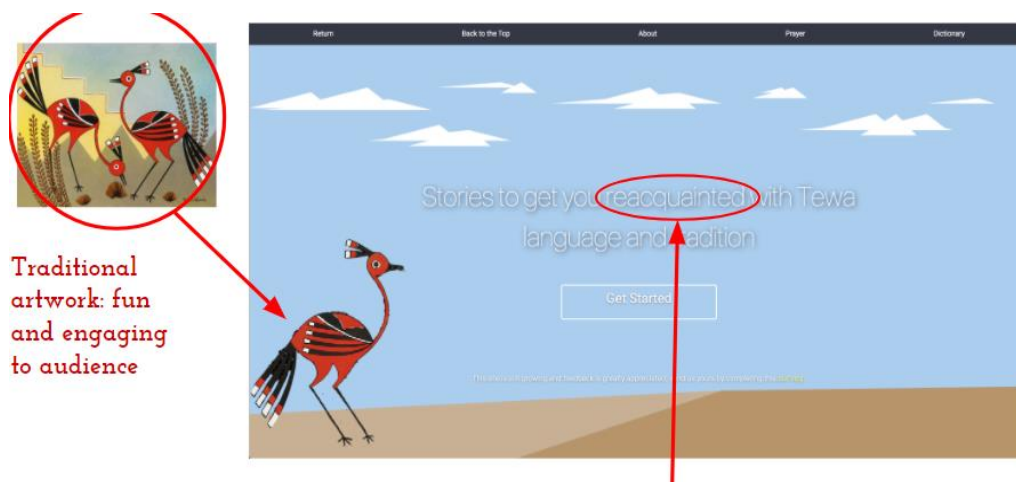
Figure 11 Video editing, showing petroglyph image

3.1.2 Plastering

We spent one morning plastering a wall of our liaison's house. Our liaison and his family were all present to contribute to the project, which ran from mixing the ingredients for adobe to applying the finished mixture to the wall. Over the course of the morning we not only observed the process of plastering a house, we witnessed the family interactions that are typical of a Hopeville family. Our liaisons demonstrated their plastering skills, while making jokes and welcoming our presence. Through casual conversations about growing up in Hopeville, family dynamics, plastering, and speaking Tewa, we learned of the importance they placed on the Tewa language and historic traditions. We did our best to shape the website to provide content in a way that reflects the culture we experienced.

3.2 Objective 2 Developing a framework for the web-based platform on which to present Tewa culture and language in a manner that is culturally relevant and effective with residents of any age group

We understood that the way we designed the website and content could have a positive impact on the users' appreciation of the importance and meaning of their culture. From an early stage in the development process, we incorporated many Tewa color schemes, patterns, images and paintings on the platform. For example, the background colors on the splash page were inspired by the color palette typical to Tewa and Hopeville art. We included images extracted from the works of Pablita Velarde, a famous Puebloan painter. We animated these images to react to the user's input on the page, creating a playful atmosphere that we hoped would engage the user. These design choices can be seen in Figure 3.3.



Emphasizes that the purpose is to introduce basic concepts

Figure 12 Explanation of splash page design choices

In our initial pilot testing, we saw immediate positive results of our choices, as all six subjects using the site unanimously enjoyed the familiar design presented to them. They thought the layout was uncluttered and simple to follow, which was our intention when developing the platform (personal communication, September 25, 2017).

In order to develop a platform that we felt would be engaging to our users, we had to research models and reviews to understand what most people find appealing in the presentation and design of modern web pages. Many sources explained that vertical tree navigation was a modern trend that engaged users and would not become outdated for some time. Jerry Cao stated that vertical tree navigation “offers unique opportunities for storytelling that [standard] navigation just cannot match. The techniques give the user more control over pacing and the continual immersion avoids the detrimental lag [the loading time incurred when navigating between pages]” (Cao, 2015). The focal points of the platform were the video modules that taught the language, which were housed on the learning page. Therefore, we found it fitting to adopt a vertical tree navigation throughout the platform. While observing our test subjects navigate the website, we noticed that they did not have to click to move from one page to another, which was our goal. Instead, they were able to access fully each of the video stories from the main page.

3.3 Objective 3 Provide a module on the web-based platform that holds culturally significant video and audio.

In total, we created five videos for the website, as seen in table 3.1. We also created an audio file of a women’s song. The song will play automatically when the user opens the page, and welcomes viewers to the website. The song is about learning Tewa and asks for guidance from their ancestors in a manner similar to what the Tewa prayer (the first video) speaks about. All of the stories used in videos 3-5 use the scripts Sponsors Five and Four developed for the project, and follow the main character, Saa Povi, through various activities that would traditionally be performed throughout the year.

Table 1 - Video Content

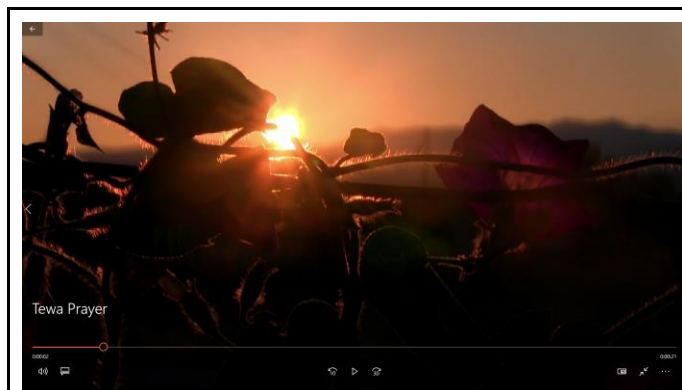


Figure 13 Tewa Prayer

The first video contains imagery of flowers, nature and the sunrise and is accompanied by a Tewa prayer. The prayer is a blessing for the continued learning and use of Tewa. The video is 26 seconds long and appears on the splash page, where it is open for anyone to view.



Figure 14 Women's Ceremonial House Interview

The second video is an interview with Marian Naranjo describing, in English, the Women's Ceremonial House and its purpose. The video alternates between clips of the house being plastered and segments of Marian speaking. There are also some video showing the inside of the house with all the tools and corn that the women use. The video is 3 minutes and 24 seconds long and is located on the HOPE homepage.



Figure 15 Corn Planting Story

The third video describes the routines of the main character, Saa Povi. In this story, Saa Povi and his son work on his field planting and cultivating corn. The film that illustrates this story was taken from our recording of Sponsor Five working on his farm, and is narrated by Narrator One, a fluent Tewa speaker. The video is 42 seconds long and is located on the learning page.

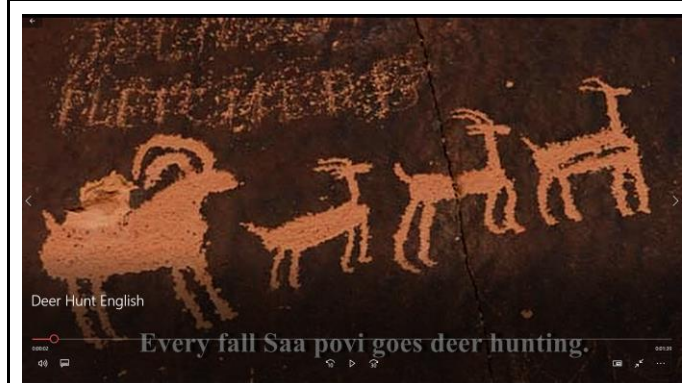


Figure 16 Deer Hunting Story

The fourth video follows Saa Povi and his son on a hunting trip, where they trek into the mountains in search of deer. After a successful hunt, they return to their family and thank the deer. The video accompanying the hunt makes use of the stock images Sponsor Three provided us earlier, such as mountain views and the sunrise. Still images of petroglyphs were used to illustrate hunting scenes, as well as old photographs Sponsor Three had of her brothers on a deer hunt. The video is one minute and 42 seconds long and is located on the learning page.



The fifth video is the third and final story of Saa Povi and his family as they gather the corn from the harvest. They take the corn to husk, dry, and then grind it. This is traditionally the job of women, and the accompanying video shows this process. The video is 29 seconds long and is located on the learning page.

Figure 17 Corn Grinding Story

Each of the scripts created by Sponsors Four and Five have three versions. These stories are found on the learning page of the website. The first is a video with the imagery and only the Tewa audio narrated by Narrator One. The purpose of the first video is to let the listener focus on the audio and immerse themselves in the language. The second version is the same video as before except with English subtitles so the story and the Tewa can be better understood by those who are not completely fluent in Tewa. The final version is a black screen with the Tewa written out accompanied by the English translations below. The audio with this third version is still of Narrator One; however, each sentence is repeated in order to teach the listener the words and their meaning. This third version came as a result of our testing, which we will explain in more detail in Section 3.4. Each of the versions of the videos will be played in succession, but the user can choose to skip any of the videos by using the selection bar below the video currently playing. We cannot include more details of the videos, such as imagery containing Tewa text, because members of the Pueblo requested that the content of the videos remain private.

3.4 Objective 4 Design and implement an educational assessment for the web-based platform we develop to determine its effectiveness with our audience

3.4.1 First Informal Pilot Test

Our first testing session was with Sponsor Two and her family. At the time of testing, the project was still in progress and the test was very informal. The subjects of this test were Sponsor Two, her adult son Sponsor Four, Sponsor Six, and Sponsor Four's 9 year old son, 11 year old son, and 14 year old daughter. Throughout the test, the subjects complimented several aspects of the site, and upon completion said the website was "very well made" (personal communication, September 25, 2017). The group was also impressed with our version of a manta along the border of the learning page, as seen in figure 3.1. On multiple occasions they stated that they liked the colors and the design. Furthermore, the structure of the website was simple enough that Sponsor Two confidently navigated the page, and said that "if [I] can do it, anyone can" (personal communication, September 25, 2017). During this test, the group encountered several problems with the website. The most obvious problem was the slow loading speed of the videos, which could be attributed to slow internet connection. We did not experience these slow loading speeds during testing as we developed the website at a different location with a better connection to the Internet. We later addressed the loading speed by decreasing the storage space required for

each video and increasing server-client caching timeouts. Other problems included minor formatting and display bugs that were immediately corrected after the test.

The content of the website consisted of one set of three videos (Tewa prayer, planting story, and deer hunting story), and a second set of the same videos with English subtitles. The first comments we received from Sponsor Four's children stressed that they approved of the imagery that was added to the videos. They liked the two versions of each video, because the Tewa videos without subtitles were uncluttered and allowed the viewer to focus on the Tewa, while the English subtitles in the second video helped with understanding the content. Sponsor Four's daughter stated that hearing Tewa and seeing the English translation was helpful and made her want to learn Tewa (personal communication, September 25, 2017). While Sponsor Four's children only had a basic understanding of the Tewa language they said they were able to pick up on some words, and believed that with more time they could learn from the videos. With this in mind the entire group agreed they would be returning to the website again to use as a resource for continued language learning.

At the end of the session we asked our audience for specific feedback on the content of the website. During this time, Sponsor Four's daughter suggested that a third version of the videos would be especially helpful. This version would be the same as the previous two except with Tewa subtitles over the imagery. Sponsor Four's daughter said: "I like to see the Tewa words written out. It allows me to visualize the words in my head and remember them better" (personal communication September 25, 2017). With the feedback we obtained, we were able to improve the website and content.

3.4.2 Second Informal Pilot Test

For our second pilot test we worked with Sponsor Three's niece and nephew (both age 8), Sponsor One, Sponsor One's granddaughter (age 9), and her grandson (age 13). While present, we administered the first part of our survey, which took place before testing. After the subjects had tested the website, we administered part two of our survey. Unfortunately we only received two submissions, rendering our quantitative data inconclusive. We suspect that the poor internet connection may have interfered with the submission of other results. However, from the submissions we received, the test subjects said they learned new Tewa words from watching the stories.

At this session, we discussed the idea that Sponsor Four's daughter suggested to us in the previous test regarding a third version of the videos with Tewa subtitles. With our sponsors, we created a third version of the stories which includes both the English and Tewa scripts with no visuals. Our liaisons indicated that it was important to not include images in this version so that the viewer would not be distracted. In this version, the audio plays in the background and each phrase repeats twice with a pause to allow the viewer to read and understand the text.

During our test, we learned that many members of the Pueblo do not own a personal computer, and instead use their mobile devices to access the internet. At the time, the website was not compatible with mobile devices and the formatting on a phone would make the site difficult to navigate. Although we were already developing the mobile website, it became a priority of ours to complete after receiving this feedback.

3.4.3 Website Design Peer Review

Our final assessment was with our peers in Santa Fe. We received a total of ten responses. Overall, the feedback was positive. All ten agreed that the animations were a great addition and the colors reminded them of either natural Earth colors or of “Pueblo Culture”, which was our intention. There were some complaints about echoing and static sounds in the background of the audio recordings. Our attempts to rectify this by processing the audio resulted in a slight reduction of unwanted noise.

When asked about the flow of information, nine out of ten of the participants liked the vertical tree structure, however, they did have some recommendations on the layout. One participant suggested: “I think it should be easier to get to the language page from the home page, and return to the home page from the language page”. This was taken into consideration and we rearranged some page items to reduce clicks required between pages. A few outstanding cosmetic issues were also discovered and resolved after the testing. The full survey results can be found in Appendix C and Appendix D.

When we distributed the survey to our peers, we gave little explanation of our intentions so that we would minimize our influence on their answers. The results of our survey may have been influenced by the fact that our peers are our friends and may have responded positively because of our friendship. However, we provided instructions that they should provide honest feedback. Some of our participants did not fully understand our project, and they were confused by parts of the content and why we did not better explain our project on the HOPE home webpage. The project description on HOPE’s public website is not wholly descriptive because the language page is private to members of the Pueblo. We wanted to respect the wishes of our sponsors and not include information that they considered too revealing. Other recurring complaints were that there was not enough material to teach Tewa, or the videos on the video story page did not play for them. For example one participant said: “I felt like I didn't learn from the website. I'd be more curious to see the dictionary utilize Tewa words, verb-noun agreement... I also think that if the purpose was to teach Tewa that the website should encourage some sort of interactive learning.” The lack of clarity resulted from the fact that we did not give access to the video content to our peers, which they may have overlooked in the instructions.

Chapter 4: Discussion

4.1 Findings

In the Hopeville Pueblo it is no longer common practice to teach children Tewa as their first language, as we discussed in section 3.1.1. Consequently, the children of Hopeville learn English as their first language. Currently, the elementary school within the Pueblo teaches in English and the children learn by reading and writing. This visual way of learning, especially in regards to learning language, has been heavily reinforced with the children. Learning English visually not only happens through school lessons, but children's TV shows, videogames, and movies are all in English. Liaison two's daughter suggested we create a Tewa translation for the videos because that is how she could best understand the material. She wanted to hear the words and see them as well. This difference in learning styles can be seen between generations. We had been working with one Pueblo member during the narration of the videos. She described how she could not read Tewa, but was comfortable reading the English words and translating into Tewa. Her daughter, however, could not speak Tewa unless she saw the written words. Since children in the Pueblo learn English visually, we believe it is hard for children to learn Tewa as an oral language in the way of their ancestors. If there were a large number of fluent Tewa speakers, it would be realistic to pass down the language orally. Children might then be able to learn Tewa from birth. Unfortunately there are approximately twenty-five fluent speakers, most of them elders, which is not nearly enough to teach each of the young generation to fluency.

The project we worked on is something new to Hopeville, however, language learning platforms have become a common method of preventing language loss with other indigenous people. There are other Native American groups who have tried similar methods of incorporating new technology with language preservation to much success. For example in Section 1.5 we describe how the Navajo tribe recorded prayers and traditional stories onto CDs in order to help preserve and maintain their language. Other groups such as the Chickasaw tribe and the Miami tribe of Oklahoma, the Maliseet Nation from the Tobique First Nation of New Brunswick, and the Mohawk tribe have all used technology to assist in their language preservation efforts (Arnold, 2016). They believe that "the insertion of the language into new technologies and contexts, however, makes it seem shiny and new—like something relevant to the technological era" (Arnold, 2016). The Chickasaw have used a combination of mentorship programs as well as an online television network that include language lessons, and oral histories. All of these programs have had strong success and can be viewed as a model for Hopeville to build upon.

Throughout our paper we have discussed how Tewa is not supposed to be written, however that does not prevent some from doing so. There are a few Pueblo members who do transcribe Tewa, but we do not know how many have written the language because we were only in contact with our sponsors. Our liaisons quietly promote the writing of Tewa because they believe it is the only way to save the language within their community.

4.2 Considerations

During our pilot testing we had a limited sample size to work with. All of our test subjects were acquainted with us and supported our project. This may have resulted in biased responses, since not many people are willing to criticize friends. The responses of the grandchildren may have also been altered, as they did not want to upset their parents and

grandparents. They may have said they understood Tewa and were enthusiastic to learn partially to appease their grandparents. We still made inferences based on the data we obtained, but we realize these inferences may be limited. Therefore, we cannot say that our tests prove the website teaches Tewa to everyone, but we can claim that further assessments of the platform are warranted.

Although most of the project will be considered controversial, there are some parts that will be harder to accept than others. The last video will likely be the most controversial because Tewa is recorded in the audio and written on the screen with an English translation. It may be more effective to have the community and the tribal council accept the project without the last video. Removing the last video may make the website more acceptable to the Tribal Council, but our sponsors believe that this video will be the most effective video in teaching Tewa (personal communication, September 29, 2017). Losing any videos would be unfortunate, but the decision will have to be made by our sponsors as they understand their community and tribal council better than us.

Throughout our project we were working in ‘secrecy’. The details of our project could not be released to the general public of the Hopeville community because the topic of our research was controversial. Our sponsors told us that there are some members in the Pueblo that believe Tewa should only be taught orally, and writing or recording the language is a sign of disrespect. That is why our sponsors feared the tribal council would terminate our project if it was discovered. Upon completion of the project, the website will be made available to the entire Pueblo and the hope is that members will see how it is beneficial to saving their language.

Chapter 5: Recommendations and Conclusions

As a team, we are helping our sponsors to work towards the sustained development of the Tewa educational platform. The motivation of the people we have worked with is indicative of their intent to preserve their language and culture. As the community takes control of the platform and develops it further, we will provide recommendations for future measures by discussing the lessons we have learned during our creation process. We will begin this chapter by providing recommendations for continued work in the future. Afterwards, we outline the most important skills needed to build a language and culture educational platform of this scale.

5.1 Recommendations For Our Sponsors

Our sponsors are very active members of the Hopeville community. Many recommendations we originally conceived have already been implemented in the community. We wish to express our sincere respect when making the following recommendations, and want to recognize the great amounts of time and effort our sponsors have spent to reach their current level of involvement.

5.1.1 Recommendation One

Our team recommends that our sponsors and their community continue to develop more lessons and content for the platform, so that one day this project may serve as a foundation for a *full* curriculum that will promote the survival of Tewa language and culture. As it stands, transcribing and recording the Tewa language is strictly prohibited within the Pueblo, which greatly limits the potential of many members of the community to learn their ancestral language and culture. As time goes on, the language is increasingly negatively affected because as the population of fluent speakers decreases, there is less likelihood that the younger generation will have any ability to carry it on unless there are changes made to the options for learning.

Tewa is traditionally learned through speaking and listening during everyday practices. A survey we conducted with our peers shows this to be the preferred way to learn a language (See

Which method allows you to best learn a language?

10 responses

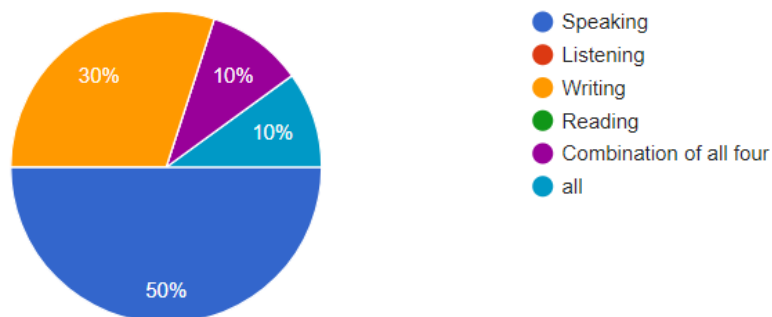


Figure 18 Method of Learning Graph

Figure 5.1), especially one without traditional grammatical structures or an official written equivalent. However, the lack of fluent speakers within the community greatly limits their capability to learn and teach the language in the traditional manner.

While reading and listening may not be the most accepted methods of learning Tewa within the Pueblo, there are simply not enough resources to allow for the conventional method: speaking. In this time of imminent extinction, we advise that no action be spared in order to ensure the survival of the Tewa language and culture. In order for action to be taken, the tribal government must adopt a new method of teaching and allow for writing and recording. How this change will be made is uncertain, but if the program we have developed for our sponsors successfully teaches Tewa, there is hope that the tribal government might eventually be persuaded to accept learning styles that are not currently accommodated. Therefore, developing more lessons and content for the platform in the future will serve as evidence to the viability and necessity of a language program in the Pueblo. Furthermore, expanding the library of Tewa content would also increase the value of the platform as a language resource within the Pueblo. Currently, the website only contains lessons intended for beginners. In the future, content could increase in difficulty in order to cater to a wider range of skill levels and promote the progressive growth of the learner.

5.1.2 Recommendation Two

We recommend that our sponsors and their community develop and institute more community-driven learning events within the Pueblo. A survey of our peers and a number of members of the Pueblo show that the most preferred method of learning a language is to speak it with others. This finding is reinforced by existing research on electrical signal responses within the brain, in particular the N400 signal. “N400 amplitude has been found to decrease when a word is more expected or when features associated with its meaning are more easily integrated within its surrounding context” (Borovsky, Elman, & Kutas, 2012). When one subject converses with another, their brain is constantly gathering statistical data based on which words are most frequently used together, enabling faster speech processing. As the listener gains more experience with the language these speech processing algorithms become more robust and dependable, resulting in a more in-depth and functional knowledge of the language (Borovsky et al., 2012).

Community gatherings and cultural practices, such as the construction and use of the Women’s house, would serve as an excellent stage for practicing and conversing in Tewa. Currently, the platform only allows for speaking the language after repetition of hearing and reading sentences in Tewa. Exposing potential learners to Tewa through communal discourse would allow for a much more expansive method of learning the language by building up the pathways associated with N400 responses. Learning from conversations between speakers would expose learners to the speech patterns of the language and allow them to rely on one another for help with phrasing, grammar, or vocabulary. Furthermore, our surveys also indicate that younger members of the tribe are interested in what it means to be a member of the Pueblo and the ancestral practices that accompany it, such as hunting and adobe construction. Instituting more community events where members of the Tribe come together to practice their culture would also serve to expose members of the tribe to cultural practices and lifeways they may have forgotten.

5.1.3 Recommendation Three

Our team also recommends that in order to encourage broad participation about the website and its content, a class to learn Tewa could be started in the community. Ideally, the

class would occur as regularly as possible, but even having the opportunity once a month could be helpful. In the classes adults and youths could come for an hour to participate in a Tewa lesson. The lessons would focus on grammar and pronunciation, and not necessarily teach fluency. Having Tewa lessons available would enhance and clarify the student's understanding of their language. In order to supplement these lessons the teachers could send their students home with homework or instructions to use the website in order to continue practicing Tewa. This could be a practical way to encourage use of the website and begin teaching the community Tewa.

5.2 Recommendations for Groups Working on Similar Projects

The opportunity to enter the lives of the Hopeville people was an incredible experience. Viewing the relationships between family and friends allowed us to understand the culture and, subsequently, the purpose of our project in a much greater sense. In this section we provide three foundational skills that, we argue, are critical to the successful development of a project of this nature. We encourage any group developing a culture or language educational platform, no matter how the content is presented, to focus on and develop these skills.

5.2.1 Understand the Community

After spending time with many Hopeville residents, we were able to see the way they interacted with each other and with nature. It is imperative to use the voice of the people to inform your design choices as the work is for their use. We learned to make careful observations and make informed decisions about the platform's design to reflect these findings. Thus, we recommend working with the community in order to more accurately understand what the project will require.

5.2.2 Determine the Ground Rules for Early Communications

This project was especially challenging because of the number of separate entities involved. In order to follow the project to completion, we worked with Honor Our Pueblo Existence, the Flowering Tree Permaculture Institute, WPI, and ultimately the Hopeville Pueblo. The occasional discord of opinions on design and content issues between groups can be difficult to manage. Furthermore, informing everyone involved of updates was sometimes difficult due to the availability of our partners. To navigate this we recommend the establishment of clear rules and times for communication early into the process, in order to make sure our work can be completed without delay.

5.2.3 Follow the Design Thinking Process By Relying on Surveys and User Feedback

Late in the development stages of our project, we organized the phases of our project using the Design Thinking Process. Applying this technique gave us greater perspective to analyze our ongoing progress. We always strove to improve any deficiency in the website that we could find, and assumed that there will always be a portion of the website that could be improved. Thus, our final recommendation is to use this system (or one similar) to provide greater clarity and organization to project work.

5.3 Conclusion

Preserving the Tewa language is vital to saving the heritage of the Pueblo. The Tewa culture promotes a sustainable relationship between humans and Nature, where Nature provides

for humans, and humans respect Nature. Community members emphasize and reinforce this relationship while speaking the language. The prayers and stories passed through the generations describe the traditions and culture of the Tewa people that physical records cannot. Now, more than ever, as the language nears extinction, Tewa must be preserved and reintroduced to the Hopeville Pueblo. We hope that our project will provide the Pueblo with the tools to continue fighting language extinction by reincorporating their culture into everyone's daily lives. It is our sincere hope that our work and findings can be further developed on the HOPE webpage and utilized as a resource for the creation of more advanced language learning platforms. We hope that the Hopeville community, as well as every other pueblo community, will discover our research findings and use them on their own path towards rediscovering their cultural heritage.

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Appendix

Appendix A: Survey to Gauge Effectiveness of Website

We are a group of students from Worcester Polytechnic Institute in Massachusetts. We are conducting a survey on our intended website users. This is a collaborative project between HOPE and the Flowering Tree Permaculture Institute. Our goal is to create an effective website that is easily navigated by all age groups. This survey is completely voluntary and you may withdraw at any time, however, your insight will be extremely useful. All responses will be recorded within our final report anonymously. If interested, a copy of our results can be provided at the conclusion of the study.

Website Research

General Research Questions:

1. How easy is the website to navigate upon first use?
2. How understandable is the presented information? Do you know where to go to access different modules?
3. How well does the presented information support the overarching goal to introduce the user to Tewa ideas and practices, and excite them to be more involved in pueblo culture?
5. Is the material presented in a manner that is respectful towards Tewa language and pueblo culture?

Survey Questions

- I. Pre Website Use Survey
 - A. Male or Female
 - B. Age
 - C. Years lived in Hopeville
 - D. Is Tewa spoken at home? By who?
 - E. How do you learn best? (Reading, Hearing, Seeing, Interactively/Hand on).
 - F. How well do you understand Tewa? (On a scale of 1-5 where 1 is can pick up a few words and 5 is can follow a full conversation).
 - G. How well do you speak Tewa? (On a scale of 1-5 where 1 is limited knowledge of a few words and 5 is fluent speaker).
 - H. Have you participated in any of the traditional ceremonies (corn grinding, planting, hunting)?
- II. Post Website Use Survey
 - A. Navigation upon first glance
 1. Did you know where to go to access the information you were looking for?
 2. How much time did you spend trying to find that information? (On a scale of 1 to 5, where 1 is could not find the information, and 5 is less than a minute).
 3. At any point were you overwhelmed with too much information or confused by the information presented. (Using a scale 1 to 5, where 1 is not enough info, underwhelmed, and 5 is way too much info. You should remove some.)
 4. Did you have difficulty using the navigation bar? (On a scale of 1 to 5, where 1 is impossible and 5 is simple)
 - B. Presentation of information

1. Were you able to comprehend the information presented? (On a scale of 1 to 5, where 1 is difficult to understand and 5 is simple)
2. How fast or slow is information presented and taught? (On a scale of 1 to 5, where 1 is too slow and 5 is too fast)

C. Support of HOPE's overarching goals

1. Has the website helped you learn the Tewa language?
2. How many new words have you learned after using the website?
3. Did you learn something about the practice displayed in the modules that you did not know previously?
4. After using the website are you more interested in learning to speak Tewa yourself? (On a scale of 1 to 5, where 1 is less interested and 5 is very interested)
5. Does this support your learning style? (On a scale of 1 to 5, where 1 is this is not how I learn it was hard to pick up any information and 5 is the format resonated well, you picked up a lot of new information).

III. Discussion

A. Website Understandability

1. When you first opened and saw the webpage, what purpose did you think the webpage was designed for?
2. Did that impression change after you spent some time exploring the website?
3. How did you feel about how much information was presented?
4. Do you have any opinions or suggestions on the format of the webpage?
5. Is anything about the modules difficult to use?
6. How would you redesign the website?

B. Presentation of information

1. How would you change information displayed
2. What did you think of the speed the information was presented and taught? Would you change it, and if so how?
3. Would you need assistance in navigating/using the website in the future?
4. Would you use the website again?
5. Would you use the website outside of an educational context? (Are you interested in the material?)

C. Support of HOPE's overarching goals

1. Has the website helped you to learn the Tewa language? What have you learned?
2. Has the website taught you a practice or tradition you didn't know about? If so, what?
3. Does this support your learning style?
4. What is your response to hearing Tewa on a website?
5. Would you like to see translations of key Tewa vocabulary on the website?

D. The content of the website reflect Hopeville

1. Can you comment on the background colors? Should they be brighter/darker? Should we include more colors? Less?
2. Are the images used throughout the website reflective of Hopeville? Are they relevant, and if so in what ways?

3. Are there any images or content that should be removed from the website?
Why?
4. Does the content respectfully and accurately depict Hopeville values? In what way?

Target Audience: Website users of all ages within the Pueblo.

Benefit to Objective: Obtaining feedback on the navigability of the website and the information held within will aid in creating a website that is easily understood and accessible to all members of the Pueblo. The data we receive will help to fulfill Objective 4.

Appendix B: Survey to Determine Effectiveness of Website Structure and Design

We are a group of students from Worcester Polytechnic Institute in Massachusetts. We are conducting a survey on our intended website users. This is a collaborative project between HOPE and the Flowering Tree Permaculture Institute. Our goal is to create an effective website that is easily navigated by all age groups. This survey is completely voluntary and you may withdraw at any time, however, your insight will be extremely useful. All responses will be recorded within our final report anonymously. If interested, a copy of our results can be provided at the conclusion of the study.

Website Research

General Research Questions:

1. How easy is the website to navigate upon first use?
2. Does the layout of the website make sense?
3. Does the website invoke a sense of New Mexican Native American culture?

Survey Questions

- I. Pre Website Use
 - A. Gender
 - B. Age
 - C. Major
 - D. How do you best learn a language?
- II. Post Website Use
 - A. Navigation
 1. Is the layout logical? (On a scale of 1 to 5, where 1 is too disjointed and 5 is the information makes sense in the way it was presented)
 2. Any suggestions to change the layout of the website?
 3. Is the text readable? Are there any images in the way or the colors make it hard to read?
 4. Did you have difficulty using the navigation bar? (On a scale of 1 to 5, where 1 is impossible and 5 is simple)
 - B. Presentation of information
 1. At any point were you overwhelmed with too much information or confused by the information presented. (Using a scale 1 to 5, where 1 is not enough info, underwhelmed, and 5 is way too much info. You should remove some.)
 2. When you first opened and saw the webpage, what purpose did you think the webpage was designed for?
 3. Did that impression change after you spent some time exploring the website?
 - C. The content of the website reflect New Mexican Native Americans
 1. Can you comment on the background colors? Should they be brighter/darker? Should we include more colors? Less?
 2. What do the images and colors remind you of?
 3. Are the images used throughout the website reflective of Native American culture? Are they relevant, and if so in what ways?
 4. Are there any images or content that should be removed from the website? Why?

5. Does the content respectfully display Native American art/culture?

D. Content

1. How did the audio sound in the videos present?
2. What did you think of the imagery in the video (scale 1-5)?
3. How were the loading times? (Scale 1-5)
4. Did you like the animations along the side of the page? (Scale 1-5, where 1 is distracting and 5 is great/fun)
5. Were any of the sections out of place?

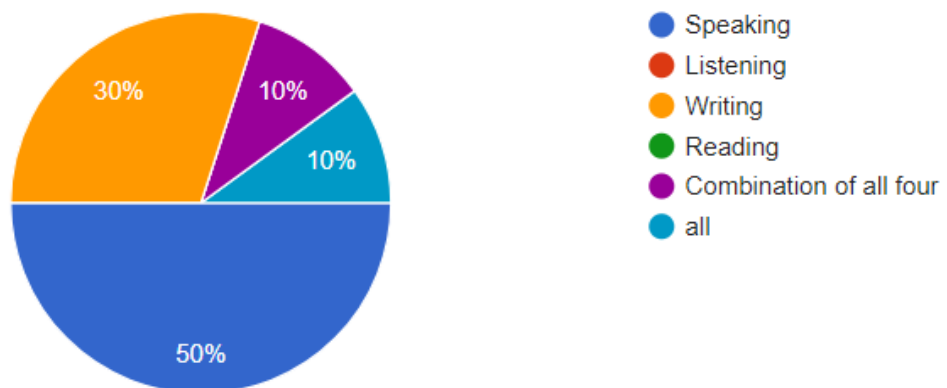
Target Audience: Our fellow WPI peers who are also in Santa Fe with us.

Benefit to Objective: Obtaining feedback on the navigability of the website and the information held within will aid in creating a website that is easily understood. The data we receive will help to fulfill Objective 4.

Appendix C: Results to Appendix B Survey

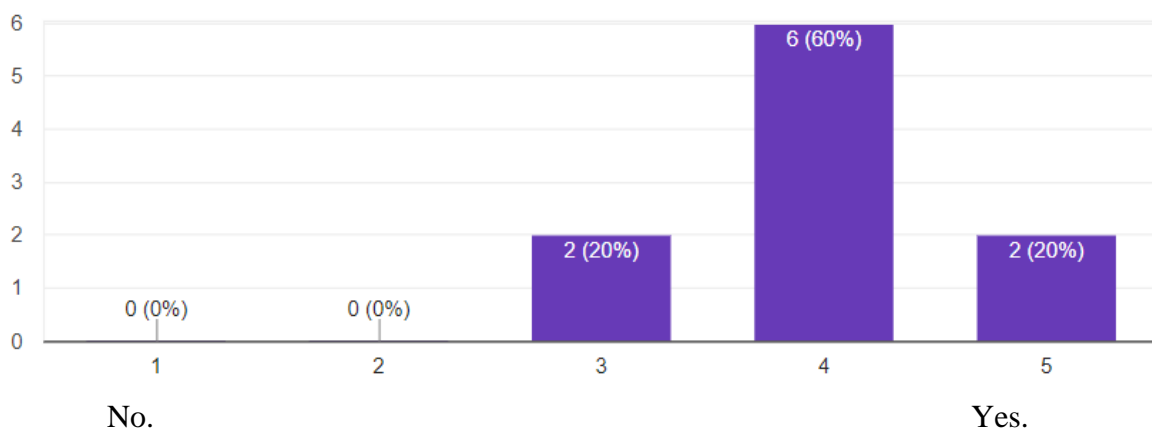
Which method allows you to best learn a language?

10 responses



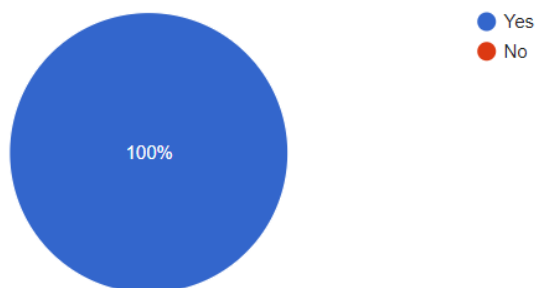
Is the layout logical?

10 responses



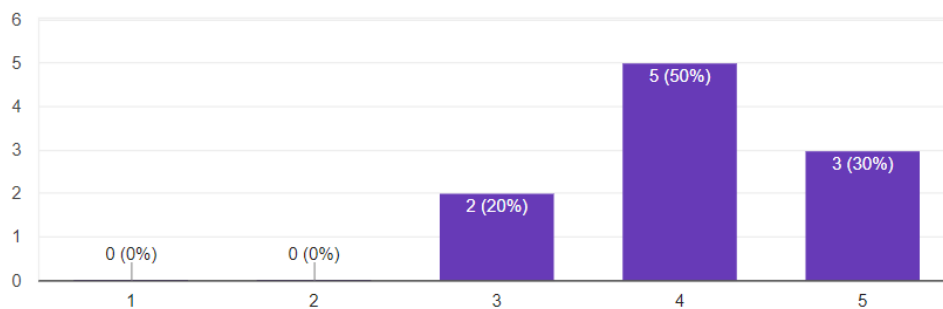
Is the text readable?

10 responses



Did you have difficulty using the navigation bar?

10 responses

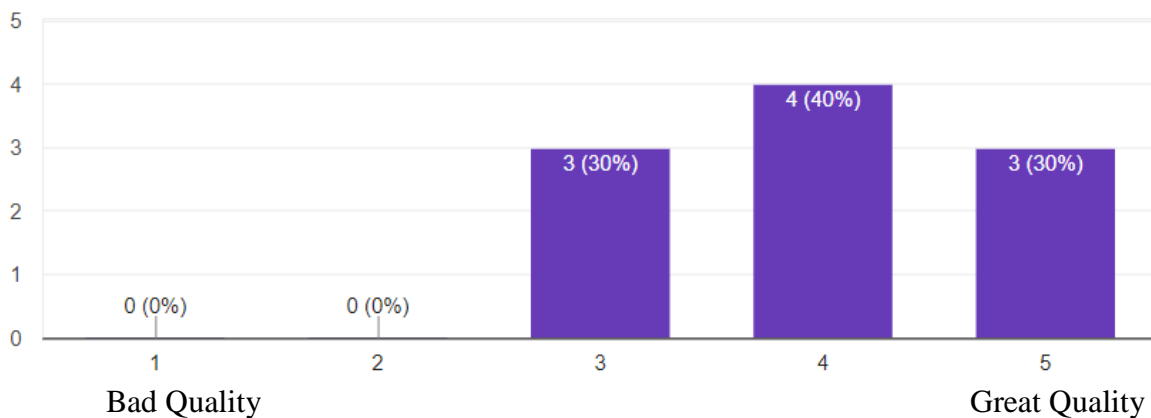


Hard to navigate.

Easy to navigate.

How did the audio sound in the videos?

10 responses

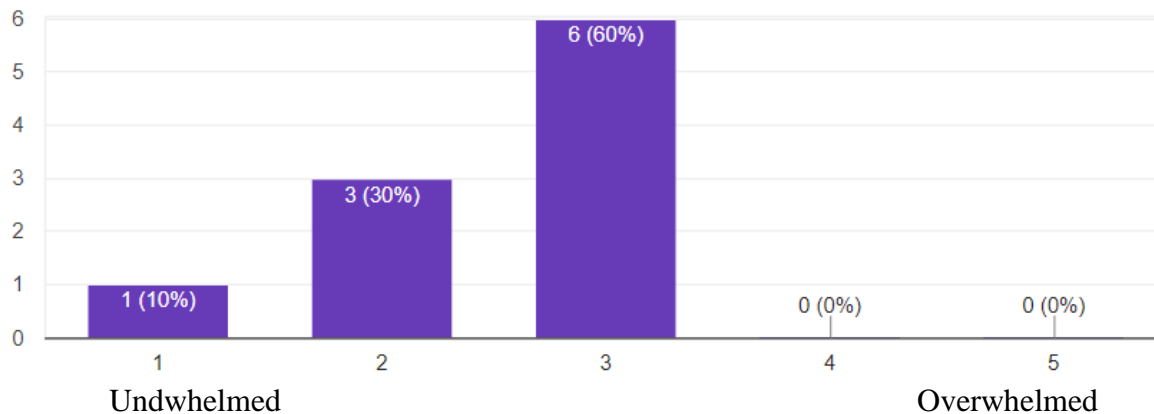


Bad Quality

Great Quality

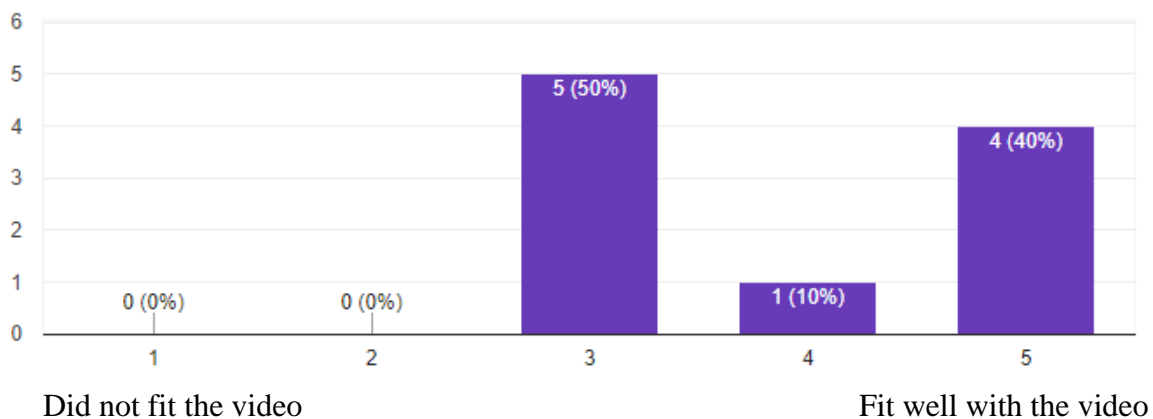
At any point were you overwhelmed with too much information or confused by the information presented?

10 responses



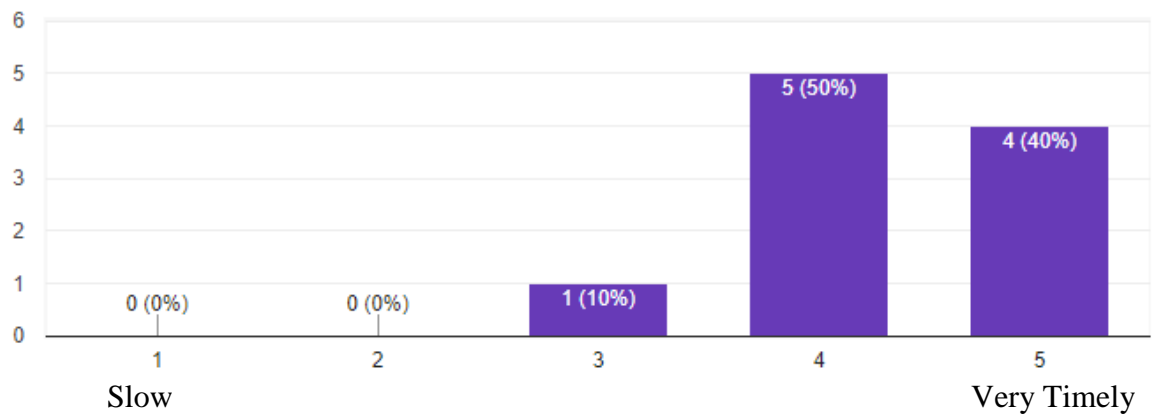
What did you think of the imagery displayed in the videos?

10 responses



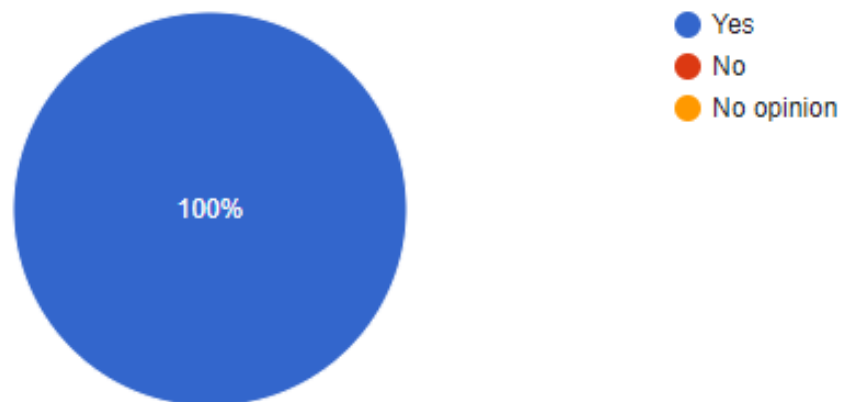
How were the loading times?

10 responses



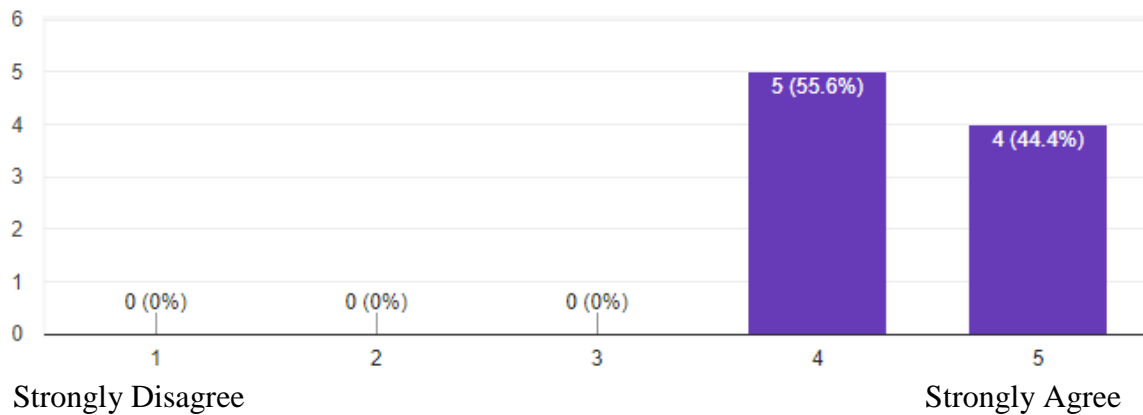
Did you like the animations along the side of the page?

10 responses



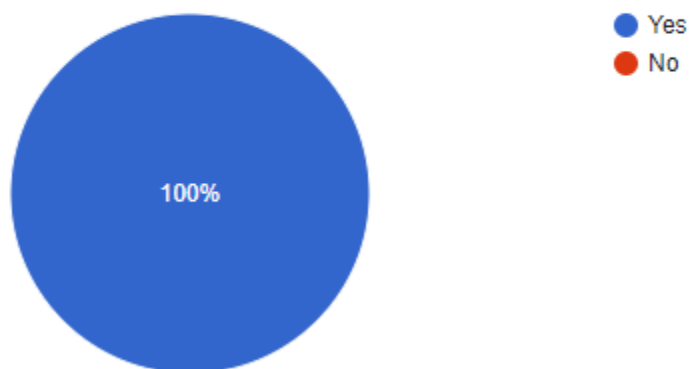
Are the images used throughout the website reflective of New Mexican Native American culture?

9 responses



Does the content respectfully display Native American art/culture?

10 responses



Appendix D: Short Answer Responses To Appendix B

| Gender | Age | Major | Which method allows you to best learn a language? |
|--------|-----|--|---|
| Male | 20 | Mechanical Engineering | Speaking |
| Female | 20 | Biochemistry | Writing |
| Male | 20 | Mechanical Engineering | Writing |
| Female | 20 | Biomedical Engineering and Electrical & Computer Engineering | Speaking |
| Female | 20 | Mechanical Engineering | Combination of all four |
| Male | 20 | Mechanical Eng | all |
| Female | 20 | Biomedical Engineering | Writing |
| Male | 20 | Civil | Speaking |
| Male | 20 | Electrical & Computer Engineering | Speaking |
| Male | 20 | BCB | Speaking |

Any suggestions to change the layout of the website?

| |
|---|
| Maybe have the three stories side by side horizontally as opposed to vertically. |
| Separate pages instead of scrolling. |
| I think it should be easier to get to the language page from the home page, and return to the home page from the language page (instead of having to scroll all the way down to the language program section to get a link to the language page, and there is no "home" button on the language page, just a return button, which is not clear where it leads to). There is a lot of text on the home page, but I like the way you laid it out with the buttons at the top to access the different sections. However, I am a little confused as to why there is only a button at the top to the "Youth Initiative" section and not the other projects, but I guess that could just be an important project for people to access. |
| Layout of "Prayer for Learning Tewa" section is a little funky - the video content box aligns weirdly with the text box and the little animation beneath the video seems kind of crammed in. Perhaps center the video relative to the Prayer text box? Not sure what you'd do with the animation, though. |
| When scrolling over the tabs on the page that comes up after clicking "get started" need to be revisited the text isn't complete and it says "the second story" on two different tabs |
| Kind of confusing to navigate it at first |
| After clicking "Get Started", hovering over the 3 sets of words at the top shows a lot of white space. |
| The website page is easy to navigate, however it is a little confusing that the website scrolled down and the buttons were to the right. |

What was wrong with the text?

| |
|--|
| For the most part the text is readable. Some of the text on the home page looks a little blurry (the big paragraphs). |
| Only exception is the text below "Get Started" directing visitors to the survey, but I can't tell if that is intentional or not. In the Prayer for Learning Tewa, I'd make the font size of the English translation a little larger. |
| Maybe make the font bolder. |
| I can read the text, but others may not be able to. White text with a black outline is readable on top of any color, you could change any plain white text to this if you wanted. |

When you first opened the website, what purpose did you think the website was designed for? Did that impression change?

| |
|--|
| Language. No |
| To teach Tewa. Yes |
| Displaying and conveying information. No |
| Promoting the pueblo and educating the community about the pueblo and the projects they are involved in. Yes |
| I thought it might serve as some sort of database or resource. No |
| Tewa Culture. No |
| Learning language. No |
| Language. No |
| Education, Reading, And Language. No |
| Learning, Reading. Yes |

If yes, what was the new purpose and why did your impression change?

| |
|---|
| I felt like I didn't learn from the website. I'd be more curious to see the dictionary utilize Tewa words, verb-noun agreement, construction, etc. I also think that if the purpose was to teach Tewa that the website should encourage some sort of interactive learning (other than hitting the play button...Perhaps something where a sentence is dictated in Tewa and the user is prompted to type the spelling and check to see if the spelling was right.) After perusing through the website for 15 minutes, I feel as though the website was more to show who made it and show a handful of prayers/lessons (?). I think some elaboration of the importance of the lessons would give the information more context. The lessons kind of come out of nowhere so it was hard to figure out why they are on the website and what is the significance/greater meaning. |
| It only changed slightly. I did not know there was going to be so much about the Pueblo's language and the stories they tell. |
| Wow videos. |

| | |
|-------------------------------|------------------------------------|
| Comments on the audio. | Comments on the animations. |
|-------------------------------|------------------------------------|

| | |
|--|---|
| None. | They move a bit too much, covering top of text when scrolling. |
| Maybe add some paused in between the phrases | Interesting and would be good for kids probably not adults |
| Overall it was fine, but there was a lot of background noise going on in the Kwi Tewaha video. | I am all about the jumping animals on the language page. |
| Not quite professional quality due to static, but the speaker is articulate which is great. I'm not sure if you guys made the page you're linked to if you click "Get Started", but that video/audio wouldn't play for me. | Pretty much see my other comments. |
| None | So cool I love them. |
| None | Cool |
| Sounded Great | They were creative, I thought they were cool, didn't expect it. |
| None | So quality, however it's important to blend the image edges to make them look less choppy. simple photoshop/illustrator fix |

| | |
|---|---|
| Were any of the sections out of place? And why? | Can you comment on the background colors? Should they be brighter/darker? Should we include more colors? |
| No. | Coloring was good |
| No. | I liked the colors the way they were |
| The only thing I was a little confused about was why you explained your project on the language page, as that is not the home page. | I liked the variety of colors and thought they looked good. |
| Not really, it all fit pretty well together. | Looks good - color scheme seems to fit well with the topic you're talking about. |
| No. | They are nice, but the Dictionary word falls on a line of changing color. |
| Looks good. | They look great. |
| No. | I like them. |
| The organization looks good to me. | The background colors look great. |
| No. | The opening, sky/desert is great. |

| | |
|---|--|
| What do the images and colors make you think of? | Comments on the images. Should any images or content be removed from the website? |
|---|--|

| | |
|--|--|
| The colors were earthen tones | No |
| Earth | No |
| Chill happy things | No looks good |
| Being outside on a nice day. | No, but some of the video formats looked different (the buttons to start playing a video/go full screen should all look the same if possible). I would have liked to see a picture of the man mentioned in Board of Directors if possible. |
| Nature, tradition, American southwest | I'm not entirely sure of what the images are of (other than the roadrunners) but that's no reason to remove them. |
| they are bright and eye catching, but idk what they make me think of | I like the animations, I think the layout is simple enough for kids and I think that all of the pictures are appropriate. |
| Native americans | I really like them I think they work well with the website |
| Pueblo Culture | No |
| They make me think of the earth, and natural like things. | I think the content and images are great. |

Final thoughts, comments, or concerns with Website in general.

| |
|--|
| It was pretty good. |
| I didn't like the video on the homepage because it looks like the screen in buffering when in reality the video is playing. Keep up the good work. |
| Very simple, good for use with children. |
| Looks pretty awesome! |
| Kind of nit-picky but use a vector image of the first roadrunner, or at least a more clean digital image. Also personal opinion on the "What is this Program" section is get rid of the colon after "Our goal was to". Another thing: the navigation bar at the top of the page says "About This Program" while the section itself is titled "What Is This Program?". I say change the section title to "About This Program", or at least make them match. The webpage you're led to when you click "Get Started" needs some work. |
| Only changes I would make is maybe replace the video imagery and fix the scroll over text for the titles on the page you go to after clicking Get Started. |
| Looks awesome |
| The images and colors are definitely Native American-like. The website looks great, very well done. |