TÚÚTTÚNNAPEN CHUUK: RETELLING CHUUKSE STORIES IN THE DIGITAL AGE

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Uwe púún  
Head bows down
Sékúrú púún  
Back lowers
Mwanú púún  
Knees bent

It has been a rough voyage arriving here. Currents, stormy seas, rainy days, and dark nights have been my companions along this journey. I would have never made it this far without a few guiding stars and efóch sópwun áppiípi (a drifting log).

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ABSTRACT

The purpose of this qualitative design research is to investigate whether a design-based website is viable in documenting, preserving and sharing Chuukese stories and to examine what web technologies would influence a participatory approach among Chuukese to continue telling, sustaining, and protecting their stories. Túúttúnnap (storytelling) is paramount to the culture, history, and lives of the Chuukese people. Túúttúnnap is fundamental to the way Chuukese people learn, share knowledge, and communicate. Today, many of these stories are at risk of being lost due to rapid changes in social living conditions. Losing them would mean losing an essential part of what it means to be ‘Wesetan Aramasen Chuuk’ (Indigenous people of Chuuk). Identifying a mechanism that does more than just documenting and preserving these stories is critically needed. Web technology is potentially a better solution due to its ability to provide more access to people, interactions between users, and multifaceted formats benefiting different levels of users.
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CHAPTER 1. INTRODUCTION

Tirow nááng, I bow to the heavens,
Tirow pwún, I bow to the land,
Tirow mataw, I bow to the sea,
Tirow womi aramasen Chuuk. I bow to the people of Chuuk.

In Chuuk, this respectful greeting is often recited at the beginning of traditional ceremonies as a veneration to honor the gods, the ancestors, and the people attending the ceremony. In some interpretations, this greeting is also symbolic, meaning to seek blessings and protection from the sky gods and goddesses—énúnap (the highest god who is also the father of all the gods and human beings) and the others, énnún nááng (the gods of the heavens), énnúnúpwún (the gods of the land), and énnúset (the gods of the sea) (Bollig, 1927). In other instances, it is cited before a speech is given as a means not only to pay respect, but also to seek blessing and permission to speak. I recite this greeting at the outset of my research as a way to convey my genuine respect by bowing my head to nááng (the heavens), to pwún (the land), to mataw (the sea), to kewe newooton aramasen Chuuk (the ancestors of the Chuukese people) and to kewe wesetan aramasen Chuuk (the Indigenous people of Chuuk). This is to seek the blessing and permission needed to embark on such an educational journey that involves the exploration and sharing of a prominent aspect of our culture and living experiences, our tűttűnnap (stories).

Storytelling is an essential part of the Chuukese culture. Traditional celebrations and rituals are centered around tűttűnnap. In Chuuk, there is a story to almost everything, whether it is a story about people, ancestors, places, history, supernatural worlds, rituals, battles, voyages, or just common narratives about daily accounts.
To our elders, *tuúttúnnap* is an once-in-a-lifetime living experience of *kewe chon nóóm* (the people of the old days) and it must be honored and respected. The late Kintoky Joseph, a traditional chief on the island of Udot, used to emphasize the importance of *kapas* or porous (words or language, but in various important occasions it refers to *tuúttúnnap*) in a short proverb, "*Kapas mei manaw, kapas mei oochoch*" (In language there is life, in language there is death). In another *itaang* (traditional language of the chiefs) telling or "Kapasen Samol" (chief's language), *kapas* is described as the root to everything in traditional Chuuk (Bollig, 1927). This *itaang* telling, "*Púúng púúng púúngin fénú, rááw rááw rááwen fénú, kapas*" (Plan plan, planning the land, strategize strategizing the land, language) dignifies that *kapas* or *tuúttúnnap* is fundamental to humans and their whereabouts. Stories fuel society and nurture people by providing instruction, guidance, and advice. Bollig (1927) asserted the significance of *tuúttúnnap* by stating the following, "More important than *uruo* [uruwo- history] are the *dudunap* [*tuúttúnnap*]..." (p. 29).

In the past, *tuúttúnnap* was the only way to document, preserve, and transmit our history, genealogy, and traditional practices. Significant parts of Chuuk’s history, culture, and identity were deeply buried in stories. Today, many of these stories are at risk of loss due to rapid changes in social living conditions. Losing these stories would mean losing an essential part of what it means to being Chuukese. Written documentation such as handwritten stories, storybooks, video, and audio recordings have been some of the preventive measures taken to save many of these sacred and valuable stories of Chuuk. At the same time, any preservation effort offers great challenges in terms of accessibility, mass production, and transmission.
Identifying a mechanism that does more than just documenting and preserving the stories of Chuuk is critically needed. Web technology is a potential solution to this problem due to its ability to provide more access to users, interactions between storytellers and (users) listeners, and a variety of formats benefiting multiple levels of language comprehension and literacy. Web technology can also foster a sense of community in which users can contribute to the site and choose to use any of the information for their own purposes, despite time and place.

**Statement of the Problem**

"When an elder dies, it's like a library burning down, so much is lost."

Chris Harvey, Head of Research and Development for the Indigenous Language Institute, as cited in (Gahagan, 2010).

The statement above reiterates the seriousness and time sensitivity to learn from our elders in our community. I can perhaps illustrate the problem from a personal perspective. A few years ago, I lost two of my uncles, Aterepe (a person who is alert, skillful, and quick) Norimasa Selet who was a traditional chief in Tunnuk village on the island of Udot. The other one was Soupwuun (the chief of the land) Remigio Eseuk, a paramount traditional chief on the island of Fanapanges. Their passing was a devastating loss not only to their families and islands but to the entire state of Chuuk. The knowledge and skills that each of these respected men possessed were never passed down to many of us. All their knowledge, stories, skills, and wisdoms are gone with them. I remember the sickening feeling that sparked through my veins as I tried to come to terms with the tragic news of their loss. One of the first few things that came to my mind was the regretful thought that I never made the time to fully learn from them. I also failed to document our
village’s wisdom, history, and itaang tellings, which they had learned over the span of their lives.

The need for documenting and preserving the traditional stories of Chuuk remains extremely critical with the loss of knowledgeable elders. Further, the advancement of technology that brought Chuuk closer to the rest of the world and the increasing number of people who migrated outside of Chuuk put additional risks to the continuing issue of cultural disconnection and language loss. The prominent social changes and adaptations growing from increasingly western ways of living continue to impact Chuuk and its people. Traditional practices are now being replaced by western practices, and families are no longer gathering in circles in the evenings to exchange stories or to share with each other daily encounters and experiences. Instead, they turn to the radio to listen to music, commercials, world news or turn on their television to watch a show or a movie. Many of them retreat to their personal corners working on a computer, playing games on an ipad or tablet, or surfing the Internet. It is now common to see people from remote islands in Chuuk connecting with relatives in the Diasporas in Guam, Saipan, Hawai'i, or the mainland USA through the internet, whether via e-mail, Skype, sms messaging, chat rooms, blogs, forums, and other social media. The World Wide Web (WWW), especially social media, has forever changed the way Chuukese communicate, seek information, and share information.

Today, due to multiple socio-economical changes, many Chuukese, most especially those that were born and raised outside of Chuuk or migrated out of Chuuk at younger ages, have lost an immense portion of their cultural identity and their ability to converse fluently in the Chuukese language. People who have lost their cultural identity
and native language often spend a lifetime searching for what they have lost—their cultural roots. Identifying a medium that is both fitting to the interest of today's population while promising to revive, preserve, and sustain Chuukese stories is extremely essential.

**Purpose**

The purpose of this design based research was to (1) investigate whether a design-based website is viable in documenting, preserving and sharing Chuukese stories and (2) to examine what user preferences of web technology would influence a participatory approach among Chuukese to continue telling, sustaining, and protecting their stories. The designed site provided a resource for informal learning as well as a potential resource for formal classrooms.

**Research Questions**

Three research questions were used to guide the investigation and exploration of this research project:

**RQ 1**: How does the use of technology influence Chuukese to document, share and preserve their stories?

**RQ 2**: What are the attitudes that Chuukese have toward the use of technology as a means to document, preserve, and share their stories?

**RQ 3**: What are some important values to consider when designing a traditional narrative site?
Significance of the Study

"New technologies can strengthen the oral traditions of endangered minority cultures, if they provide appropriable systems that support a dialogue in the local language linked to content" (Rankin, Villaume, Edwards, Hansteen-Izora, & Hansteen-Izora, 2006, p. 1).

Figure 1. Importance of Storytelling in the Chuukese culture

Stories depicted the history, cultural values, and beliefs of the Chuukese people. They are a vital core of the Chuukese culture. Everything is centered on tūttūnnap. The figure above illustrates that people utilize tūttūnnap in many essential purposes—to
document and transmit history, to preserve important information, to teach and learn important lessons, to convey an experience or idea, and to address contradicting issues or taboos. Over many decades, traditional practices and village wisdoms were preserved in túúttúnnap and later passed down to newer generations through storytelling. The Living Cultural Storybases (LCS) (2009) gave a detailed description on the importance of stories to Indigenous people:

For indigenous people, stories create world views, teach practical skills, transmit custodial knowledge of biodiversity and carry the understanding of how to live in fragile or hostile environments. Furthermore, the recounting of myths and narratives are vital for maintaining ethnic identity and group solidarity. Stories have social functions, representing the collective memory of the people, combining the past with the present and attaching meaning to space and time. They encapsulate the deeper beliefs and values of a culture, inspire and promote role models, ways of living, behaving and believing. In summary, storytelling is at the heart of social life, personal and cultural identity. Once the stories are no longer re-told, the culture is indeed dead. (Living Cultural Stories, 2009)

Designing a website that would reconnect Chuukese to take initiatives in preserving, documenting, and sharing their stories is vital especially in this rapidly changing technological age. Web technology is a recommended venue, which will be used to embrace and strengthen the arts of storytelling among Chuukese due to its ability to share information inspite of time and place. It is also interactive and socially viable, allowing people to absorb as well as continuing to contribute stories. Further, the study is
a contribution to our understanding of informal learning environments when applied to an indigenous population.

**Summary of Methodology**

**Description of research methodology**

This was a design-based study that used three different types of participants to inform its development and provide the needed data that would shape the implementation of the website and the final layout design of the research project.

**Research Site**

The study took place at multiple sites. The first included locations on the island of Oahu in Hawai‘i, at the College of Education at the University of Hawai‘i at Mānoa and at the residence of one of the participants. The second was in Hilo on the Big Island in Hawai‘i at one participant’s home. The third site was in the homes of two participants on the Island of Udot (researcher’s home island) in Chuuk State, Federated States of Micronesia.

In respect to research sites, it should be noted that all the 30 participants from the various locations explored the website that was created through this study. The name of the website is “Tuutunnapen Chuuk” (Chuukese Stories). All written contents are in Chuukese. The website is comprised of Chuukese stories, including a few that were contributed by the interviewed participants. Besides the website written contents, some stories are available in multiple formats such as downloadable PDF’s, word docs, mp3 files, and videos. The study took place over five months in 2014.
Participants

Participants who took part in the study consisted of three web design experts, 30 survey participants, and five interview participants. Although they were listed as participants in the project, the web experts only provided consultation on the design of the prototype that was used at the early stage in this study. Since they were only consultants, they were never asked to sign a consent form or to take any of the evaluation instruments. Therefore, the official number of participants in this study consisted of 30 individuals, 12 males and 18 females, with the interview participants taken from this group.

All 30 participants were Chuukese speaking adults between the ages 18-71, who are interested in preserving and sharing the culture, history, and stories of Chuuk. A majority of them possessed basic technological skills with some level of interest to contribute and publish Chuukese stories on the Internet.

1. **Design Experts**: Three participants provided consultation on layout design. They were questioned about their designing experiences, especially those that are culturally oriented.

2. **Survey Participants**: 30 participants, Chuukese speaking adults who had some interest in Chuukese stories were recruited to go through the prototype and provide feedback.

3. **Interview Participants**: Five participants went through the revised site and provided in-depth feedback. Open-ended questions during talk-aloud sessions were used as guides. These participants also went through an interview checklist confirming the statements they made during the interviews. In addition, they also
filled out three Likert scales ranging from strongly disagreeing to strongly agreeing with the emerging themes from the coded data.

Research Design

This research utilized a design research approach to develop a website that was used to document, preserve, and share stories of Chuuk. All contents of website, “Tuutunnapen Chuuk”, are in Chuukese language. The development of the site was shaped by comments made by research participants (See Figure 10).

Data Collection

Data was collected from three different sources—the survey questionnaire, interview questions, and the interview checklist. Memos and observation notes were also reviewed for additional data collection. Interviewing sessions were videotaped.

Instrumentation

There were three (3) different types of instruments that were used in this research: (1) Survey Questionnaire—Questions asked about the site's interface, design, interactivity, and users' attitudes and experiences in regards to the sharing of Chuukese cultural materials, (2) Interview Questions—six questions served as guides to the interview process, asking about in-depth experiences on the site and perceptions regarding sharing Chuukese stories on the web, and (3) Interview Checklist—Questions asked of participants to confirm and rate their responses to the research questions and the emerging themes.

Data Analysis

Data from the survey and interviews were analyzed using a three coding cycle—open coding, axial coding, and selective coding. At Lasti and Microsoft Office Excel
2010 were used for coding and analysis. Graphs and tables were made, using Microsoft Office Excel 2010, to illustrate the data analysis.

**Role of the Researcher**

As the researcher, I was responsible for every aspect of this study ranging from writing and revising materials, creating instruments, and designing the website. I was also in charge of recruiting participants, making arrangements, administering surveys, scheduling and conducting interviews, and following up with participants. A huge part of my task was to make sure that all legal matters were taken care of and understood by my research participants.

Technology has been a huge part of my life. I have been designing materials for the web for more than 10 years. In 1999, I designed my first website and it forever changed how I perceive and utilize the Internet. I have designed websites for conferences, schools, individuals, and other culturally based contents. Following are some of the sites that I designed:

1. *Chuukese Idioms:*

   http://www.ling.hawaii.edu/ldtc/languages/chuukesidiom/ciproject.htm

   This website was initially created as a showcase project in the Language Documentation Program at the University of Hawai‘i at Manoa in 2004. After it was presented at the Language Documentation Program Presentation session, *Chuukese Idioms* was donated to the program. It is now owned by the Language Documentation Program, which was initiated by the Linguistic Department at the University of Hawaii at Manoa.
Figure 2. Chuukese Idioms Website

2. Chuukese Songs: http://rayphand.wix.com/rayphand

Figure 3. Chuukese Songs Website
The *Chuukese Song Website* was created as a class final project in PACS 602, Re-Presenting Oceania, in fall 2009.


The website, *Translating the Human*, was created for an international conference on rights, ethics, and practice across multiple cultures in 2010.

![Translating the Human Website](image)

**Figure 4. Translating the Human Website**

Digital Book Making Website was created as both a resource and a six weeks online course for teachers and individuals who are interested to create their own digital books or materials. It was originally designed to be used in teachers' summer training program at the College of Micronesia-FSM, Chuuk Campus.

**Figure 5. Digital Book Making Website**

5. **My First Birthday**: [http://aichemrayphand.wix.com/bday#!about-me](http://aichemrayphand.wix.com/bday#!about-me)

Among many of the personal websites that I designed for various individuals and agencies, I created a few to celebrate essential lifetime accomplishments. This website, **My First Birthday**, was used an electronic invitation to families and friends for my son's first birthday. I included other pages to share a brief information about who he is, some of his favorite pictures of himself, information about his birthday party, direction to the party's venue, and our contact information incase people need to contact us.
Figure 6. My First Birthday Website

Limitations

A small group for a pilot study did not speak for Chuuk as a whole. Although this research provided some insights to pounder when studying Chuuk, there are still multiple layers of Chuuk's rich history and culture that are yet to be explored and analyzed. As an insider doing this research, I am biased especially when I am familiar and compassionate about my own home, my culture, history, and the stories of my ancestors. I carefully treated all data and information as objectively as possible during the analysis to avoid
inserting bias and also followed a rigorous and standard research process including standard methods of validation to constrain my own preconceptions.

**Definition of Key Terms**

Following are some of the terms that are commonly used throughout this paper. Since words can be understood or defined in varied ways, particularly in translation to another language, it is only reasonable that I define them according to their significance and usage in this research.

*Túúttúnnap*: It is a Chuukese word that is best referred to as stories or storytelling. It derives from two root words, *túúttún* (to speak, to speak of, or to speak about) and *nap* (big, abundance, or enormous). *Túúttúnnap* is a prominent aspect of the lives of the Chuukese people. There are many different types of *túúttúnnap*—entertainment stories, fiction stories, personal stories, voyage stories, family stories, clan stories, place stories, historical stories, spiritual stories, and so forth. There is almost a story for every single thing that has to do with the Chuukese people, their place, and their lives. The type of stories that this paper explores are those that tells about culture, tradition, history, and genealogy. In many cases, *túúttúnnap* is sacred and it can only be shared to individuals with close family lineage.

*Éreni*: The meaning for éreni in the Chuukese language is something that you are used to or familiar with. It is something that becomes part of you after doing it repeatedly over a long period of time. In a literal sense, *éreni* is culture—*érenien Chuuk* (Chuukese culture).
**Uruwo:** Uruwo, also spelled as 'Wuruwo' in (Goodenough, 2002), can be best defined as traditional history or legend of origins. People usually talk about Uruwo in the form of noos or kieki (traditional mat made out of coconut or pandanus leaves). Uruwo belongs to certain noos or kieki. The traditional mat is literally referred to as a specific group of people or a specific place.

The uruo [uruwo] have has content the origin of the kin group, the chiefs, the colonization of the individual districts. They are the property of the idang [itaang] and the idang [itaang]-chief and therefore are completely unknown to the common people. Every island and every village has its uruo [uruwo]. (Bollig, 1927)

**Tirow:** Tirow is an honorific greeting that is perceived as a gesture of showing respect, seeking blessings, and asking for permission. Tirow usually involves "stooping, literally bending, crouching or even crawling" (Goodenough, 2002). It is often stated at the beginning of ceremonies or before a speech is given. Often times, it is a means of seeking permission for passage especially when people are sitting down.

**Fairo:** Fairo according to the late Kintoky Joseph is a traditional way of living. It is a set of harmonious principles that define and give guidance to individuals and society. In an interview, Akenus Akenus, a descendant of Chief Kintoky Joseph of the Sapeno clan, stated that "if we have to talk about Chuukese culture and to teach Chuukese ways of living or knowledge system then what are really talking about or set out to teach is 'Fairo',” (A. Akenus, personal communication, April, 14, 2012).

Fairo comes from two words fai (under) and ro (bow). Fairo can be best described as a stage of lowering your own self to give and show respect
and loyalty to something or someone. It is a body of teaching of precious communication created by ancestors who were wise and knowledgeable in order to bring and strengthen peace and harmony among the people of Chuuk. **Fairo** (under brow or under arc of heaven) people are assembled under the aegis of the arc of heaven and also under the aegis of the *Fairo*. (Cholymay, 2013)

**Wesetan Aramasen Chuuk (Indigenous/Native People of Chuuk):** The indigenous people of Chuuk are those that are not only born to a Chuukese mother or father but those make Chuuk a part of their everyday lives--- know the language, respect cultural norms and protocols, know the history of their people and their places, participate in traditional practices, and honor the beliefs, values, and knowledge systems that give meaning to their Chuukese identities.

Indigenous peoples are the holders of unique languages, knowledge systems and beliefs and possess invaluable knowledge of practices for the sustainable management of natural resources. They have a special relation to and use of their traditional land. Their ancestral land has a fundamental importance for their collective physical and cultural survival as peoples. Indigenous peoples hold their own diverse concepts of development, based on their traditional values, visions, needs and priorities. (Parisi & Corntassel, 2007)

**Pénú:** People refer to *pénú* as both the navigator and the school of navigation in general. A *pénú* (navigator) is a well trained person in seafaring. He is knowledgeable about weather, orientation of the solar system, waves, currents,
and the wind. He is also expected to know factual stories about different seas and the geographical settings of different islands.

**Itaang**: Like *pénú, itaang* also refer to both the individual who possess the skill and the actual training or school of *itaang*. *Itaang* is also referred to as the honorific language spoken mainly by chiefs or individuals with high statues. Individuals with *itaang* status were well versed in the *itaang* language, historical tellings, political affairs, village wisdom, and traditional lore. They are expected to be very generous and humble.

**Machew**: *Machew* is the barb of a stingray. Chuukese refer to *machew* as the holistic property of a clan or a group of people. Stories, history, habits, rituals, traditions, customs, language, values, beliefs, practices are all define by *machew*. There are three *machew* in Chuuk: *Machewen Sopunupi*, *Machewenichun*, and *Machewen Unnap*. *Machew* is equivalent to a set of laws or a constitution of a place or a group of people.

**Noos**: In some other parts of Chuuk, *noos* is also referred to as *kieki* (mat). It is made from dried coconut or pandanus leaves woven together to form a mat. Literally, *noos* refers to specific way, customs, or tradition that defines and indentifies a group of people. It can also means historical telling in an orderly fashion.

**Kapas (same as porous)**: Depending on how it is used in any context, *kapas* or *porous* can mean the spoken words, language, news, talk, messages, conversations, or stories. In some other ways, they can also mean to talk, to speak, or to tell a story.
Summary

Web technology is now ‘the’ popular medium for communication and to seek and share information. A website is potentially the most feasible and accessible way to document, preserve, and to share Chuukese stories. People who reside in Chuuk and those living in the Diasporas can share stories including their history and culture. The site created out of this study will be part of an effort dedicated to document, preserve, and sustain the art of Chuukese storytelling over generations, informed by the Chuukese participants to better ensure an appropriate and engaging interface.

Many significant concerns, issues, ideas, and points of discussion that are initially raised in this introductory chapter are revisited with more emphasis in some of the upcoming chapters, as well as a full reporting of the results of the study.
CHAPTER 2. BACKGROUND: CONTEXT AND LITERATURE REVIEW

_Iik me ochaan, Aramas me Fééún._

Coral reefs belong to certain fish; stories belong to certain people.

Chuukese Proverb, Somataw Namewell, 1990

Finding a place in today’s technological world where Chuukese traditional stories could be continually shared, preserved, passed on, and promoted is extremely important. The on-going influence of western culture in Chuuk further contributes to the increasing risk of losing these traditional stories. Losing a language usually begins with losing the components that are not frequently used in daily conversations as in stories, idioms, proverbs, and so forth. Although traditional stories recorded essential historical and cultural accounts and were rich with tremendous information about the people and the surrounding environment in Chuuk, they are most likely to be lost and replaced by foreign stories that embrace modern technology. Losing these traditional stories definitely means losing vital aspects of what defines and identifies Chuuk and its people—the Chuukese.

To understand the context of my research, the literature review explores the following: (a) Overview of Chuuk, (b) Historical Background, (c) Storytelling through a Chuukese Lens, (d) Learning: Formal and Informal, (e) Learning from Stories, (f) Storytelling and Learning in Chuuk, (g) Storytelling in the Digital Age, (h) Preserving and Cultivating Indigenous Knowledge.
Overview of Chuuk State, Federated States of Micronesia

Geographical Background

Figure 7. Map of Chuuk State, FSM, Chuuk Department of Education, 2007.

Chuuk is one of the four island states in the Federated States of Micronesia (FSM), the other three being Pohnpei (the capital state of the FSM), Yap, and Kosrae. It is located 7 degrees north of the equator and 152 degrees east longitude of the Pacific Ocean. That is approximately 617 miles southeast of Guam and 3,262 miles southwest of Hawaii. Chuuk is comprised of 19 high-volcanic islands inside the lagoon, 10 atolls, and 225 low coralline islands that stretch hundreds of miles apart outside the 1,320 sq. miles lagoon (Jeffery, 2004a; Jeffery, 2004b). The total landmass of the entire state is approximately 77 square miles (128 km), including the outer islands.

Chuuk (formerly known as Truk- a name given by the Germans) is a native word that means ‘mountain’. Chuuk is a general name referring to more than 235 islands spreading at the central part of FSM’s 3 million square kilometers economic exclusion zone. Out of the 235 islands, 40 of them are inhabited making up the 40 island
municipalities of Chuuk. These islands, including both high islands and atolls, are grouped into five political regions: (1) Northern Nomwoneas, (2) Southern Nomwoneas, (3) Faichuk, (4) Mortlocks, and (5) Northwest (also known as Western Islands). Northern Nomwoneas, Southern Nomwoneas, and Faichuk are mostly high islands located within Chuuk Lagoon. Mortlocks and Northwest regions, often referred to as outer islands or *Fenapi* (sandy island), consist of atolls and low coralline islands located outside the lagoon (Cholymay, 2013). The islands within Chuuk Lagoon divide up the lagoon into three large groups: (1) Northern Nomwoneas (7.75 square miles) consisting of Weno, Piis-Paneu (formerly known as Piis-Moen), and Fonoto; (2) Southern Nomwoneas (11.72 square miles) consisting of Tonoas (formerly known as Dublon), Fefen, Etten, Siis, Uman, Parem, and Tétiw; and Faichuk (19.25 square miles) consisting of Eot, Udot, Romonumw, Fanapanges, Patta, Polle, Onei, and Tol.

Some of these large regions are further divided into sub-regions due to the remoteness and distance between islands. Southern Nomwoneas is divided into three sub-regions: (1) Tonoas (consisting of Tonoas and Etten), (2) Mácheweichún (consisting of Fefen, Siis, Parem, and Tétiw, and (3) Uman. Faichuk divides itself into three sub-regions: (1) Nomwisofo consisting of Eot, Udot, Romonumw and Fanapanges, (2) Tol, and (3) PPO consisting of Patta, Polle, and Onei. Others still divide up Faichuk into two sub-regions: (1) Outer Faichuk (consisting of the islands in Nomwisofo) and (2) Inner Faichuk (Consisting of Tol and the islands in PPO). The Mortlocks region is divided into 3 sub-regions: (1) Upper Mortlocks consisting of Nema, Losap, and Piisemwar (formerly known Piis Losap), (2) Mid Mortlocks consisting of Namoluk, Ettal, Moch, and Kuttu, and (3) Lower Mortlocks consisting of Satawan, Ta, Oneop, and Lekinioch. The
Northwest region is also divided into 3 sub-regions: (1) Pafeng consisting of Murilo, Nomwin, Ruo, and Unanu, (2) Pattiw consisting of Pollap, Houk, Tamata and Polowat, and (3) Nomwunweité consisting of Makur, Onoun, Onari, Ono, and Pihsara (also known as Pisarach).

Weno, formerly known as Moen, is the capital of Chuuk State. It houses all the national and state government offices and facilities, businesses, the airport and the commercial shipping port. Weno is the only island with paved roads, running water, a sewage system and island-wide electricity. It is also the home of the majority of the private and public schools and the two community colleges, the College of Micronesia-FSM, Chuuk Campus (COM-FSM, Chuuk Campus) and the Caroline College and Pastoral Institute (CCPI)—a Catholic private college. In recent years, the Pacific Island Bible College (PIBC) opened its satellite campus in the village of Nepukos at the Berea Christian Church.

Population

The estimated population for Chuuk in 2000 was 53,595, marking it as the highest populated state in the entire nation of the FSM (FSM Division of Statistics, 2008). In the 2010 Census, the FSM Statistics Office reported that population across the nation is declining due to the mass migration of its citizens, especially young women. In 2008, the population of Chuuk was reduced to 53,221. The 2010 census reported that the current population of Chuuk is 48,654 (FSM Division of Statistics, 2010). It is believed that more than 5,000 of Chuuk's population are now residing in other states within FSM, Guam, Saipan, Hawai’i, and the mainland USA. Although the number of households had increased from 15,723 to 16,767, the average household size declined from 7 people in
2000 to 6 in 2010, and the average family size declined from 7 in 2000 to 4 in 2010 (FSM Division of Statistics, 2010).

**Political Status**

As one of the sister states in the FSM Nation, Chuuk practices a democratic government with a freely associated relationship with the United States of America. A governor and a lieutenant governor lead the state government; a mayor and an assistant mayor oversee each of the 40 municipalities. Both the state government and the municipal governments have their own constitutional government with three coequal branches consisting of executive, legislature, and judiciary branches. Although the government adopts all practices in a democratic government, it also respects and recognizes the role of traditional leaders such as soupún (master of the land), samonún sópw (village chief), and samonún einang (clan chief), that is often referred to as the samonún eterenges (chief of the extended family). Many of these traditional roles are inherited; therefore they are an exception to governmental election laws.

**Language**

The main spoken language is Chuukese, a Trukic language of the Austronesian language family spoken primarily in the Caroline Islands in Micronesia. English is the national language of the Federated States of Micronesia and there are many natives who speak English. Many of the elders who were educated during the Japanese Era can also converse in Japanese among themselves.

**Historical Background**

“In a number of Pacific societies people still divide their history into two parts: the era of darkness, associated with savagery and barbarism, and the era of light and
civilization ushered in by Christianity [and western contacts]” (Hou'ofa, 1993; Hou’ofa, 2008). Chuuk history is perhaps a prime example of this duality. Today, many Chuukese usually separate our history into two distinctive parts: pre-contact and post-contact. Sometimes, others refer to our history as “Múún Rochopwak” (Time of Darkness or Pre-Christianity) and “Múún Saram” (Time of Light or Post-Christianity). This description often implies a separate line between our past and our present selves. It is somewhere near this line that our culture is forced to redefine itself and our history is challenged to take a different recording and retelling format. We usually start describing our history beginning with the Spanish Era and ending it with the Compact of Free Association, overlooking the reality that our ancestors had already settled our islands thousands of years before European contact (Close Up Foundation, 2000).

Archeological and scriptural evidence proved that our islands were settled 2000 years ago. The first settlers were believed to have arrived from Southeast Asia, Indonesia, or the Philippines. We know for sure that our ancestors were once wanderers of the land and the sea. Later, they settled into small villages and began to farm and hunt. They discovered how to make more efficient tools, which allowed them to build bigger houses and canoes. They then began to explore the sea in search of new land and resources.

By the 1500s, our ancestors had already established sailing routes to Yap and the Islands in the Marianas, especially for trading purposes. Other stories claimed that Chuukese people also sailed to Pohnpei, Kosrae, Ratak in the Marshall Islands, and other islands in the Polynesian triangle. Undecorated pottery items that were discovered on some of these islands were used as scientific evidence to prove the existence of these
early seafarers. The first people were believed to have settled on one island and later branched out to all the different islands in Chuuk, including the outer islands.

**An Indigenous Historical Perspective of Chuuk**

Chuuk is an oral traditional society where túúttúnnap (storytelling) is used as the primary tool to learn, preserve, and pass down history, traditional skills, and knowledge from generations to generations. There are many different versions of the history of Chuuk captured in its abundance of stories. They are told from numerous viewpoints influenced by the clan they belong to, their village or the island they come from. Like many of the Pacific Islands, each particular einang (clan), sóópw (village), or fénú (island) has its unique history. Most of the time, a clan, village, or island history could be referred to as the history of Chuuk, as a whole, depending on the soufóós (teller or speaker) or the souuruwo (historian).

There are three words that people often use when they refer to the history, tradition, and custom of the Chuukese people: (1) *Kieki* (custom, tradition), (2) *Noos* (tradition history, or protocol, talent, skills, experience, or personal story), and (3) *Machew* (Set of Rules, ways of living, history, or Constitution). These three words are used interchangeably depending on an event itself or the surrounding theme of a celebration.

*Kieki* or *noos* both means mat. Mats are what people sit on, where they live, and what they sleep in. Basically it is where the people reside. *Kieki* is often describes as a nenien kaeo (place of learning) or when an individual relates to a specific group of people or clan. *Noos* is commonly used when people talk about uruwo (history), tradition, and to relate to áfetan (how one talks about genealogy or tells a story in an orderly fashion).
The three well-known historical stories of Chuuk are told in three noos (tradition or protocols), with the first being the Noosen Sópunupi (tradition of the Sópunupi clan originated from Weno and it later spread out to almost all the islands in Chuuk). The next one is the Noosen Machewichun (tradition of the group of islands, Fefen, Siis, Parem, and Tétiw). Last is the Noosen Unnap (tradition of Uman that often times referred to as the history of the Fesinim clan). These three noos are highly respected and recognized among chiefs and during traditional events. The teachings and trainings of itaang (a traditional leader that is well-versed in protocols, politics, warfare, community affairs, and esoteric knowledge) are centered in these three noos as well.

Among the three, machew is described as a superior term that can trace genealogy and identify groups of islands. People often identify themselves by the machew that they belong to. Their machew records their history, and it also defines their tradition and culture. It tells their stories, and influences the way they use language. Machew is bigger than family linkage and clan. In fact, it binds different clans or islands together.

**Machewen Sopunupi, Machewichun, and Machewen Unnap**

According to the Uruwon Chuuk, machew is described as, “Ei kapas machew en me tipan, en me mefian, en me silean [sinean], are pual [pwal] forian. Iei usun ei kapas machew are wewen ei kapas machew, pun emon me emon lon [non] tipan.” (Uruon Chuuk, p. 60). Machew is the barb on the stingray that is also known as tail stings or tail spines. It is symbolically used as a warning to those that disobey the machew—they will be stung or punished. People sometimes refer to machew as énnúk (rules) or nónnómun aramas (the people way of living). Machew perhaps best defines both a way of living, history, and the rules that guide and bind the people together.
There are three different *machew* in Chuuk: *Machewen Sópunupi*, *Macheweichun*, and *Machewen Unnap*. *Machewen Sópunupi* is the largest that stretches from the majority of the islands in the lagoon to the outer islands in Mortlocks and Northwest. The second largest is *Macheweichun* that includes all the islands in Southern Nomwoneas (the islands being: Fefen, Siis, Parem, Teetiw) except Uman, Tonoas, and Etten. *Machewen Unnap* is native to only one island, Uman Fenuweisom. Many *itaang*, especially those from Uman and those that have political and family ties to Uman, speak of the *Machewen Unnap* as an embodied map that includes the rest of the small islands and islets northeast of Chuuk Lagoon, and the adjacent lagoon outside Chuuk Lagoon known as Neoch or Kuop Atoll.

*Machewen Sópunupi*

The following *machew* provides a context for Chuuk oral history, beginning with the *Machewen Sópunupi* that relates to the largest territory. The *Machewen Sópunupi* stories can trace a clear line showing the relationship between *énu aramas* (half ghost and half human), movement of people, and how the clan *Sópunupi* spreads to the rest of the islands in Chuuk as well as some of the nearby states such as Yap, Pohnpei, Kosrea, and the Marshall Islands. Some of these stories talk about many of the reasons behind these movements and the conflicts within the *Sópunupi* clans that often lead to the formation of different clans.

Stories native to *Sópunupi* tell of an *énu aramas* who lived on Weno. He is believed to represent the first people of Weno. According to this *Noosen Sópunupi*, the first people of Chuuk lived on Weno and later spread to the different islands in the lagoon. They were later spread to the outer islands including some of the neighboring
states in Micronesia. Traditional narratives talked about the settlers of Sopunupi such as Túúttunanpen Souwariras (the chief of Weno who resided in the village of Iras), Neipachaw (sister of Soukachaw and Souwariras), Inapuei also known as Lapuei (the lady who came from Iras and settled the island of Moch—in ancient stories the island of Moch was also known as Soupun Mutto for it is only a sandbar), and Notuk (a half ghost and half human lady whose character is known for being humorous and tricky). Notuk was an énu aramas who stole some of the fresh water from Apere, a pond on Fonoton, and hid it in her mouth. She was hoping to take the water to Fananu, an island in Pafeng. On her way there, a young man, the son of the chief of Feuew, deceived Notuk. The young man was another énu aramas. He was dancing closely to Nokuk making her laugh and unexpectedly poked her side with his index finger. Notuk spat out the water, and the water accidentally poured down on Feuew.

Evidence of the expansion of the Machewen Sopunupi can be found in many of the stories of the islands in the Faichuk region. For instance, stories and chants about Umwun Sopunupi and Únúmen Sopunupi Nú on the island of Udot provided some evidence not only about Machewen Sopunupi, but also the movements of people between islands. Following are the stories of Sopunupi’s umw and Sopunupi’s drinking coconut:

**Porausen ewe Umw an Sopunupime won Udot**

Nomw Nomw won ewe fonu Udot, ewe chok einang mi wor, ewe einang Sopunupi. Non ewe fansoun chon ewe einang Sopunupi ra umuni umun enen nour ewe samon. Nessosor chok, ra kitipépé fein nee amonata masowen me pisekisekin ar ewe umw. Taweno angagnen pisekiseken ar ewe umw, ra amasowa, chenuwenong, iwe epwenano. Pwinino ewe ran ese ipwet,

**The Story of Sopunupi’s Umw (Underground Oven) on Udot**

Long time ago on the island of Udot, there was only one clan, the Sopunupi clan. One day, members of the Sopunupi clan prepared their umw (underground oven) to cook breadfruit for their chief. When dawn came, they still weren’t completely done and it became dark. They decided to give up and wait for the next day for it was too dark and
while they could no longer see. While they were planning on holding off things until the next day, they were astonished to see a light coming down from the heavens. They looked around among themselves and saw that it bright like daylight. When they looked up into the sky, they saw that one of the stars was shining upon them, directly upon the place where they had their umw. The star was the light of Sópunupi’s umw.

**This is the chant of this umw.**

"Who is there, who tries to drag out the stories, words of our land, he who can't drag. For this is it, that is what it is right. Who is his mother, his mother is the right, the highest righteousness, that was decided in Neorek, that it is proclaimed by Anúnap, and Nukeinen, that they sent down an unmovable star that never move to shed light on Sópunupi’s umw."

**Kapases Unumen Sópunupi ewe Nu**

"Nge upwe esusu, nge upwe amwetemeta nge eu ei nu, pon eu ei nu, pon nuwenenwen, nge upwe usawu, won Tipeniong ren Eponuechik, ren Epouwelap. Onusu amweta, tinepu, tinepuninem, ai Sopunupi. A su wa we, me orun Ipenuk, epwe terita mesoren Ikechau. Pecheto war na, sipwe kutatiw, me asan apetu ami io ko, me won Wisop, ngang we raven, pacheto wa na sipwe kutalong minei we me saa, re etto fitir, me Lopwechepwech."

**Tales of Sópunupi’s Drinking Coconut**

"I will move it, I will juggle it, one of these coconuts, the husk of this coconut, husk of a stright coconut, I will move it out to Tipweniong with Eponuechik and Epouelap. Let it jumps, juggles, and cuts in halves, my Sópunupi. The canoe has left from the shore of Ipenuk, it will go near the harbor of Ikechau. Move their canoe closer, we will go look for them above Aperu. Who is there on Wisop, I am the stragetist, move the boat closer and we will look for my relative in Saa, they come to join them, in Lopwechepwech"
Soukachaw, a fierce warrior and a great ruler on Weno, was believed to be the creator of Machewen Sópunupi. Soukachaw was believed to come from the state of Kosrae, which was known as 'Kachaw' in ancient Chuuk. The name Soukachaw can be best defined as the ruler of Kachaw (Kosrae) or someone who knows Kachaw very well. The word Sópunupi in the Chuukese language means a sandbar or a newly formed place. Other itaang narratives tell a variation of the story in which the Machewen Sópunupi is a resettlement after the returning of the people of Weno who have ventured outside the islands in the lagoon. Later they settled the islands northeast of Chuuk including Kosrae. Soukachaw’s mother was part of the exodus that left Weno and settled in faraway lands including Kosrae. She later gave birth to a son and she named him Soukachaw. When Soukachaw was young, his mother used to tell him stories of her home island and her brothers who were known for combat and navigational skills. When Soukachaw was a young boy, he was taught navigational skills and martial arts by Souyap (Ruler of Yap-the group of islands Northeast of Chuuk). Souyap was an uncle that often sailed to Kosrae to check upon Soukachaw's mother and other relatives.

Sefanin Weno

Chuukese itaang claims that the Noosen Sópunupi is a resettlement history after the return of the people of Weno from Kachaw. They settled in Kachaw for a number of years. This is clearly told in one of the traditional chant ‘Fetanin Weno, Sefanin Weno’ (The Parting of Weno, the Return of Weno). This is sometimes told as ‘Tooun Weno Niwinin Weno’ (The Departing of Weno, the Return of Weno). In his 1964 address at the first graduation ceremony at Truk High School (currently known as Chuuk High School), Honorable Mayor Petrus Mailo, a well-respected traditional chief of Weno, used this
chant to remind the graduates about their history and the explorations of their ancestors, who once left Chuuk to earn good fortunes but came back to make it a better place (Gladwin, 1960).

**Macheweichun**

The people from Fefen, Siis, Parem, and Tétiw, a group of islands in Chuuk Lagoon between Uman and Weno, also have a different *machew* that is also respectively different in its own *noos* and historical origin. A few of the islands in the Faichuuk Region such as Udot, Eot, and Fanapanges can trace back their *itaang* origins to this *machew*, *Macheweichun*. *Macheweichun* is not only distinct in its *noos* but also in its own beliefs, customs, stories, culture, traditions, and the origin of its people.

As known to the rest of Chuuk, *Macheweichun* is the major *noos* that covers all the general areas in these islands. In this *Noosen Macheweichun*, it should be understood that there are several subdivisional *noos* held by the original clans (J. Akapito, Personnal Communication, January 27, 2014). According to Akapito, the people of *Macheweichun* considered the *Noosen Macheweichun* as *Noosen Neppo* (sometimes spelled as *Nepwo*) with the three different subdivisional *noos*: (1) *Fáinú* specialized by the clan *Sóufa*, (2) *Unnimw* specialized by the clan *Saporenóm* and *Nero*, and (3) *Sapunion* specialized by the *Pwe* clan. All these three subdivisional *noos* are recognized as vital parts of the *Noosen Neppo* with specific meanings and purposes. Each of these different *noos* has its own *Soúpún* and *Itaang* who are well versed in the history, tradition, culture, protocols, stories and chants native to their clan of origin.

Each *noos* is believed to have a significant yet distinct purpose and duty to *Macheweichun* as a whole. In the different *noos*, there is a clear understanding of
cultural status and properties. For instance, certain lands belong to Fainu. Certain reefs belong to Unnimw, and certain uruwo belongs to Sapunion. Although there are clear distinctions that identify each of these noos, there is also a common understanding that they are all components of one thing, the Noosen Neppo that also refered to as Noosen Macheweichun. Today, the constitutions of the three municipal governments in Macheweichun—Fefen, Siis, and Parem—recognize this cultural setting and orientation within the Noosen Neppo.

For decades, there have been long debates and bloody battles over where the first people of Chuuk originated from. Historical tellings share many stories of the first people of Chuuk but they are always told differently from clan to clan, island-to-island, or noos to noos. In 1976, in the village of Sápetá on Fefen, evidence of pottery was discovered by a team of archaeologist, Richard Shulter, Yoshihiko Sinto and Jun Takayama (Parker & King, 1984). The discovered artifacts were dated to about 2000 B.P., tracing evidence to the first human settlements in Chuuk (Takayama & Shulter, 1978).

Machewen Unnap

According to the Machewen Unnap, Fesinim is the chiefly clan on Uman. Uman is the only island in the lagoon that was never invaded by the Sópunupi clan; therefore its history remains unique and pure from Sópunupi influence. Fesinim is also known to be the clan of the first people of Chuuk living on Uman, as told in Noosen Unnap. In some traditional stories, chants, and kapasen itaang, the Machewen Unnap was once spread to the rest of the islands in Chuuk. Traditional narratives tell that Machewen Unnap was created by a niinim—also known as niimw or nitákátúknios (a dead-leaf moth). The
niimw is an éenú aramas living on Uroras—the centermost and highest mountain on Uman. It is believed that in the beginning, there was nothing on the island of Uman except the niimw. All living creatures were living inside the core of Uroras. The story of the historical creation of the people of Uman, according to the Noosen Unnap, is detailed in the story of ‘Ékkúpenin ewe Chuuk Uroras’ (the Excavation of Mountain Uroras)—Uroras, which often refers to as Ékkúpen in many itaang stories. Following is the story of Ékkúpen.

**Ékkúpenin ewe Chuuk Uroras non Uman**

**Paapasno, paapasoto.**

A nónnómw emén niimw (ika niitúkütku knios) won chukun ewe me won ewe fénu Uman. Ei niimw emén énnú aramas. Iten chukun ei niimw ewe itan Uroras. Weeven iten Uroras ei, ewe 'raas a uur'. Non an ewe Niimw nónnómw a neenengeni pwe kewe aramas, masowen non chukun ewe ra fokkun chómmóngono. A núukúw pwe chuukun ewe, Uroras, a fokkun uur. Iwe non ewe ran, ewe niimw a ekkieki etta pwe epwe nee ékkúpeni (amaka ika kuúti) chuukun ewe. Iwe, ewe niimw a ékkúnééw ruwúwémén áát, ewe emon itan Faafares iwe ewe emon itan Faresipuu pwe repwe wiisen ékkúpeni ewe chuuk, Uroras.

**The Excavation of Mount Uroras on Uman**

Drifting away, drifting back

There was a niimw or niitukutuknios, moth or grass bagworm, living in his home on the mountain of Uman. He was considered half ghost and half human. The name of his mountain is Uroras. Uroras means ‘the sacred area’ is filled or it is fully occupied. As niimw observed, people began to multiply until there were many of them living on the mountain, and he came to believe that his mountain was now becoming crowded. One day niimw decided that he was to level his mountain. Then niimw asked two boys; Faafares and Faresipuu to do the leveling of the mountain.

Right after the boys heard what was asked by niimw, they immediately responded and came to him. They sat down and began with the request. They sat with their backs against each other; one facing to the west and the other facing to the east. They began by spreading part of the mountain down to the west and to the east part of Uroras. Then they sat facing north and south spreading the mountain once again. This is one of
The reasons that when you look at Uman from afar, you will see that all the sides from the east to west, south to north are all the same shape.

When the niimw spread what were on Mountain Uroras, he spread what was on the mountain down to the water, including the people along with their responsibilities, liabilities, rules and regulations. Those who did not comply with the rules received bad deeds in return. They are considered to be in a saying, 'empty cookhouse' or 'remains of a burned house'.

There were five (5) clans that came out from the mountain during the movement of the mountain. There were ‘Fesinim’, ‘Sóór’, ‘Ipenges’, ‘Winá’, and ‘Chéémó’. Then the niimw assigned each clan its responsibilities. He chose Fesinim to be the head or land chief of Uman. After some years, few more clans were added to these original clans of Uman.

Spreading of the mountain on Uman can also explain the reasons why the shape of Uman is similar on all four sides as you look from the different locations; west, east, south and north.

It ends and it stops

The story of Ékkúpen can be heard in many traditional chants and itaang stories.

Stories and chants of Ékkúpen are told today at important community events and traditional occasions. It is to instill order among the people of Uman and to remind them of their history—where the first people came from, how their clans and villages were
created, and how the first people settled the different parts of Uman. In this story, the *niimw* also bestowed upon each of the newly created clans their roles and responsibilities throughout Uman. Today, the Fesinim clan still holds the title of *soupún* of Uman as given by the *niimw* in the story. The title of *soupún* is an inherited title passing down on the first-born son of the chief’s oldest sister. In other cases, the *soupún* title is given to a chosen successor among the Fesinim men. The chief, with the consultation and confirmation of the Fesinim’s elders, usually chooses the successor.

The importance of the creation story of Uman is also captured in many of the *aapasen Itaang* (*Itaang Language*) and in various traditional chants. One of the chants that is commonly used at the opening or closing of many traditional ceremonies on Uman goes as follow:

\[
\begin{align*}
Ekkúpetau mwán ese rongorong, & \quad \text{Hollowing out men that don’t listen} \\
Ekkúpetanong mwán ee rongorong, & \quad \text{Hollowing in men that do listen} \\
Ekkúpet, & \quad \text{Hollowing,} \\
Ekkúpet, & \quad \text{Hollowing,} \\
Ekkúpetii fénú. & \quad \text{Hollowing the land}
\end{align*}
\]

This chant, like the story of *Ékkúpen*, reminded the people of Uman about their historical creation which recognized and respected those who listened and obeyed authority. On the other hand, punish those who pose a risk to the *Noosen Unnap*. Many of the Umanese believe that the story and chant of *Ékkúpen* not only told of the creation of the people of Uman, but also reflected on how it settled the people into specific villages. It also reflected on the assigning of responsibilities, duties, and poses warnings that instilled peace and harmony among the people. This story also reminds people of the consequences when any individual tries to disobey or poses a challenge to common social rules defined by the creator, the *niinimw*.
The people of Uman refer to the Uman Constitution as the Machewen Unnap. In this constitution, the people of Uman recognize that machew is the highest law on Uman Fenuweisom (the island of the chief). Following the Machewen Unnap, the Constitution states that “Ei machew iei ewe Epinkepisaton non Uman Fenuweisom. Ew mokutukut ika annuk mei osukosuka ewe masowen ei machew esapw wor pochokunan non oukukun met ewe mei ungeni ei machew” (This machew is the constitution of Uman Fenuweisom [the chief”s island or island of chiefs]. Any decision or law that is deemed oppositional to the content of this machew is null and void [or 'invalid'] in as much as it contradicts this machew) (Uman Constitution Chapter 2, Section 1) (Constitutional Convention of Uman Fenuweisom, 1992). It explains and recognizes the duties and responsibilities of the sewichap (executive branch) in Machewen Unnap. The constitution further states that “Unusen ewe pochokuen apochokuna annuk non ewe Makkaneinon non Uman a nom ren ewe Atisou ii ewe mine mokuren ewe pachangen Sewichap non ewe Makkaneinon, me ewe epwe wisen apochokuna unusen masowen ei machew me minisin annukun ewe Makkaneino non wenechar”(All the authorities to enforce the Makkaneinon non Uman
(Uman Municipal Government) rest with the Atisou (mayor) who is the head of the executive branch of the Makkaneinon, and he is also fully expected to truthfully implement the constitution and all other related laws.) (Uman Constitution, Chapter VI, Section 1) (Constitutional Convention of Uman Fonuweisom, 1992).

**Apwerepweren Ewe Machewen Unnap**

*Epwe nee pwereta pwereta*,
*Sukuta sukuta,*
*Emweemweta ai we machew,*
*Machewen neetunukis,*
*Machewen neetuunumap,*
*E païeno aan, a arofesí raaw,*
*E païno ika a arofesí aak,*
*A arofesíta won ii nang en,*
*Ren en Anunap me Semenekaror,*
*A arofesítw won ii son en,*
*Ren ii Sounoon, fan ii piru non,*
*E utta me neeoun achaw,*
*E irepwopw me nepetenifou,*
*Weneta, weneta, weneweneta."*

It is coming up, coming up,
Rise up, rise up
My machew is penetrating
My machew of small discussion
My machew of large discussion
It tilts to this side, it gathers plans,
It tilts to this side, it gathers strategies,
It tilts to this side, it gather rights,
It rises into the heaven,
To Anunap and Semenekaror,
It sets down to the earth
To the deep sea god, beneath the seabed
It stands on solid rocks
It cultivates by bedrocks
Straight up, straight up, up straighten up

Sylives Namewel, 2012

In the *Machewen Unnap*, the people of Uman use traditional chant and stories to map their territories. These chants and stories talk about the settlement of their people in specific places. They mention names of different islands, reefs, harbors, and events that took place in this *Appwanin Uman* (mapping of Uman) (Constitutional Convention of Uman Fonuweisom, 1992). These chants often give good descriptions of the events, their significance, the settings where they take place, and the people that are involved. Some of these places are ‘*cheenwóók’* or places that were captured or invaded during battles and fighting competitions.

**Uruwon Appwanin Uman:**

*E susu Asaf we me won ii Uroras e*

**History of How Uman is Mapped:**

A flying asaf (frigate bird) up above
manupiu e manupinong epwe amwemwa ne nomwun e Oor, e asorofa uwan e asorofatit ne nomun i Notou ren Nouumtataw e asorofano nenomun i Efjông e asorofau ne nomwun Otiw, e epwinipoutiw ren i Nieiche nge won i Pukuwan, nge e osefaan nge e onongei Niwowoïset won i Pisesen inan a ponuwan ren Nioofonu won i Mutonap nge orun i Fefen nge a kokkono ren Nochupuku won i Mutonap mesorun i Tsis, inan e mwononong nge non i Punguñom e tatafa unan me non i Nopung.

Mountain Uroras, it peacefully flies out, and peacefully flies in, to overlook its lagoon from the Southern part, searching for its directions, searching down its lagoon from the northern part, over the ocean, searching its lagoon of the eastern part, searching out its lagoon from the western part, flying overnight with its partner over its shore, turns and looks back seeing through Niwowoïset where his wife of Nioofonu is on the big reef closer to Fefen, but sinking because of Nochupku on another big reef, on the lagoon side of Tsis [Siis], there it disappears within where it belongs, shaking its feathers where its announced and recognized.

Fotuki unamon nge ren I Soupung won i Uroras, nge e kokotiw ren Atainuk, nge epwe ne farisi ewe Nuunisom non i Nefo. E rorofonu, e roro aramas, e roro samon non i Soniro ren Motisom. U fejetaneisom, u ipweipweisom upwe ipwenong unwo won e Fowiso nge foun i Soram usapw a nom ana, upwe ipwenong mwô won Founkocham usapw a nom ana, upwe ipwenong mwô won Fouinuk usapw a nom ana, upwe ipwenong mwô won e Fousom upwe motisom nge upwe ne sarifi fonapen e wai nge non i Nefo, upwe ne eineti utenen i wawa we wan Atinuk nge non i Tawanal.

Plant it as agreed by them up above Uroras, but it is sinking by Atainuk (Man of Right Hand) for he is tying the chiefly drinking coconut within deeply. Gathering land, gathering people, gathering chief within its chiefly site where it belongs. I walk chiefly, I step chiefly, I step in, on the sitting rock, but it is for someone, I do not belong, I step in on sighting rock, I will not stay there, I step in on a chiefly rock to live and untie to open up the zeal of my sail, I will divide and share abundance of my sail that belongs to Atinuk within Tawanal (an harbor on Weno).

Uwa su ngang a Isumwar me mesen i Punguñom upwe kutano Niwowoïfou woií Mutonap Mesei Nepotun nge arun i Fefen. Epue echiato meta orian nemenesê fonu, nge a ereniei founuven i Kuning nge won e Fefen, fonuwen Witiwit me woií Tonoas. Nge u orata Kuning Sarepwo me woií Chukusam nge won i Fefen. Nge uwe Urano nge emon u Witiwit ren i Nieitup woií Tonomwan nge woií Tonoas, upwe kutawu Niwowoïset woií Pisesen.

I am departing, I am leaving from my home, and I will search for Niwowoïfou, on a high reef, as I see and sense near Fefen. It informs what sighting within the land, but informs me of the land of Kuning (bird), from Fefen, land of Witiwit, on Tonoas. But I look up, seeing kuning flying above the high mountain on Fefen. When looking, I see one bird waiting on Tonomwan, Tonoas, searching for Niwowoïset on Pisesen.

Who is that on Pukuweisom, chiefly site for Sōpunupi clan, maybe day time, for he tells me I will wear it for it belongs to Kitichu in Nenimwat next to Winion. I carry in my hand what honorifically pronounced for the people to guide the people; it is with Raamona, at Puwaw lagoon near Sanat. I will look for the rock of Otcha on Uput and food for Umochow. Rolling in on Pannaw, rolling out on Onenike, skipping not, and keeping quiet. Who is that on Puenes, Inepseneuai, for he foretells from Nechi, I look for two fish on Fanan.

I pick one from Newos, part of Neuwa. As I look in Nemaras, I met Ngingi and Nganga, as they visited Nemonechen. Ngingi and Nganga. As I look down, they are rock of Rofes, and rock of Atinimwon, on the site of Wininen and Atinimon, part of Nenimwon by Soniro. Who is that at Wisas, maybe Toupuwanu or Soupuanu, they tell me not to take a break, not to rest, I can get boils on my hand, my legs, and my mouth, the chiefly men on Nemu.

I was leaving with a blessing passage, passing the shore of Fouki.
and see the chiefs of Meseong. I could see Newofach with Netawaw, he tells me to look downhill, it is Soufa, where it is located. He is to send fish caught from fishing, it is Nipou by Fonuppou Nemaneepou, I look in Eppinoruu, there were fish. I look in Epinnorunong, I see fish, specifically the special fish with sharp fins belonging to the chief. He tells me to meet Nounataw by the lagoon, also asks that I meet with Nochupuku on the high reef by Tsis to look out for Ngingi and Nanga. They are approaching the lagoon, they return and visit Nesopowo, they travel up to Fonononeon by Tawenion, they move up to Tawanap to see Atinuk, finally reaching Founoneon.

**History of Foreign Administration in Chuuk**

Chuuk, like many other Micronesian islands, has gone through four different foreign administrations (Bautista, 2005; Bolig, 1927; Gladwin, 1970; Hezel, 1992, 2008; Hezel, 1973; Hezel, 1985, 1971, 1972, 1973a, 1974; Kim, 2011; Kramer, 1932). The first foreigners to govern and colonize the islands in Chuuk were the Spaniards, the Germans, the Japanese, and now the Americans. Each foreign power had its own interest and unique plan on how to colonize and develop the islands in Chuuk and its people. Whether the interest is political, economic, religious, or educational, these foreign powers were bestowed or forced upon the people and thus changed the way the Chuukese live their lives, their history, and their culture. Different ways of governance, religious practices, and education were not only introduced to the islands, but forever replaced...
traditional practices. New forms of government replaced the traditional chief system. New religion converted many of the Chuukese people and banned any traditional religious practices. School curricula were designed to teach foreign languages dominating over traditional language and other subject areas very much foreign to the ways of life in Chuuk.

**Earlier Exploration**

In the 1500’s, the explorers from Spain discovered the islands in Chuuk. Most historians claim that Álvaro de Saavedra Cerón, a Spanish explorer who was known as the first navigator to cross the Pacific Ocean, discovered Chuuk in 1528. Others claimed that Chuuk was first visited on January 17, 1565 by Alanso de Arellano and Lopé Martin aboard the San Lucas (Hezel, 1973)

From the early 16\textsuperscript{th} century to the early 19\textsuperscript{th} century, many European explorers came to Chuuk, following the Spanish, British, Russian, French, and American explorers. They sailed among various outer islands in Chuuk. However, the Chuuk Lagoon itself did not become well known until the early 19\textsuperscript{th} century. This is because the Chuuk Lagoon’s warriors had a fierce reputation of xenophobia and often killed visitors as they attempted to come ashore. The first map of Chuuk was drawn by Captain Duperrey in 1824 and published throughout the world as the “Hogalu Islands”.

Chuuk has a very checkered history of foreign contacts due to the fact that European explorers sometimes claimed their discoveries, even without setting foot on any of the islands in Chuuk. For instance, the islands in Fenapi, the group of atolls southeast of Chuuk Lagoon, were named after Captain James Mortlocks who only saw the islands
from the deck of his ship and claimed them as part of his discoveries during his trading voyage in 1795.


![Timeline of Foreigners in Chuuk](image-url)

**Figure 8.** *Timeline of Foreigners in Chuuk (Rayphand, 2010).*

**Spanish Administration**

The first Europeans to visit were the Spanish, who landed around 1565. Subsequently, visitors from many countries made brief visits including Germans, English, French, Russians, Portuguese and Americans. Chuuk residents had a reputation of being somewhat unfriendly, and it was not until 1886 that the Spanish established a
regular presence in Micronesia. The Spanish had little interest in Chuuk except for religious purposes and limited trading. The Spanish ruled over Chuuk from 1886 until 1898. During the Spanish occupation, many of the native people were converted to Christianity. Several of the churches banned their members from practicing many parts of their traditions and cultures. They traded clothings, guns, and sophisticated metal tools in exchange for food, water, turtle shells, pearl shells, and beche-de-mer (Hezel, 1984). By 1989, after the Spanish American War, Spain sold its Micronesian interests to Germany.

**German Administration**

After purchasing Spain's Micronesian interest, Germany started ruling the islands from 1899. Like the Spanish, Germany did little with these isolated islands except to change their name to Truk, by which they were known until the name Chuuk was restored following independence almost 100 years later. The Germans are credited for establishing schools at some of the churches throughout Micronesia where students were taught to read the Bible, write, and do basic arithmetic. They were also the first foreigners to establish a ‘western’ form of government in the islands. Copra trading was popular during the German administration in Chuuk. Different coconut plantations and factories were built on some islands. People from different islands moved to other islands to either work at the factories or on the plantations. Majority of the workers worked in the factories preparing copra and packaging them for shipment. A few young men worked aboard the copra trading vessels transporting dried copra from island to island or to the factories at the trading ports. "In 1902, copra accounted for 96% of the total export value in German Micronesia" (Hezel, 1984).
Japanese Administration

Japan ruled over Chuuk from 1914 to 1944 through World War II. Japan took control of the region at the beginning of WWI and began developing the islands economically and militarily. Due to Chuuk's ideal strategic location, between the Philippines and Hawaii, the Japanese Imperial Government used it as the principal naval supply station for both merchant and military shipping. Within a few years, many Japanese migrated to Chuuk to established Japanese naval and air bases. Business and other military suppling companies were also built and generally brought economic prosperity to the islands (Peattie, 1992).

Tonoas, also known as Dublon, was used as the center island for the Japanese occupation. Tonoas housed many of the major government offices, military developments, business, and secondary schools. Many native people worked for money at tuna factories, farms, rice plantations, construction sites, phosphate mines, and stores. A few older women worked with Japanese families as housekeepers and care takers for their children. Only a few of the native people held government positions as police officers and corman. However, as time passed, more Indigenous Micronesians fled the area as the islands became more important to the Japanese military’s interests.

Japan was known for establishing a strict government in the islands that had zero tolerance against crimes committed by the islanders. Japan was credited as the first foreign power to create public education in Chuuk as well as throughout Micronesia. All children were required to attend school on their island from 1st to 5th grade and later transferred to Tonoas for an additional two years in 6th and 7th grades. A public hospital was also constructed on Tonoas focusing primarily on epidemic control (Gorenflo, 1995).
In addition to these developments, the Japanese Headquarter in Palau was relocated to Chuuk bring more and more Japanese to Chuuk. Japan also brought many Okinawans to work as farmers to supply food for the military. Japan’s interest in the islands shifted from economic development to a more military oriented focus.

By 1944, there were over 40,000 Japanese civilian personnel living and working in Chuuk (Ichiho, Gladu, Keybond, & Ruben, 2004); (Jeffery, 2006). There were about 1,000 war and supply ships moored in Chuuk Lagoon and five airfields, which supported close to 500 aircrafts. Chuuk was considered the most formidable of all Japanese strongholds in the Pacific region. Many believed that these military developments escalated the bombing of the Japanese military facilities in Chuuk by the U.S. and its allies during World War II. On February 17, 1944, the surprised Allied aerial attack sank 50 ships resulting in the lost of about 180,000 tons of shipping goods and destroyed about 270 planes (Jeffery, 2006). Japan surrendered its interest in the Pacific Islands including Chuuk to the U.S. and its allies in August of 1945 after the bombing of Hiroshima and Nagasaki.

**American Administration**

Following World War II, Chuuk, along with the rest of Micronesia, were overseen by the U.S. Naval Administration. In 1946, the United Nations created the Trust Territory of the Pacific Islands (TTPI) and assigned the U.S. to be the administrative authority to develop the islands in the areas of culture, economics, and education. The U.S. Navy controlled the TTPI from the headquarter offices in Guam until 1951, when the U.S. Department of Interior took over all administrative services. In 1961, the U.S. Department of Interior relocated the headquarters from Guam to Saipan. Chuuk (then
Truk District) was a member of TTPI along with the districts of Palau, Marshall Islands, Pohnpei (then Ponape including Kusaie, the old name for Kosrae), Yap, and the Northern Marianas Islands.

A district administrator was appointed by the U.S. President to oversee each of the districts in the trusteeship. In Chuuk, Moen (now Weno) was made the center of the district. Government offices, schools, and health centers were built to ensure quality living (Hezel, 1985), (Hezel, 1979). The curriculum suddenly changed from Japanese to English. English was also used as the language not only in the district offices in Chuuk, but also throughout the TTPI federation.

Chuuk, along with Yap, Pohnpei, and Kosrae left the TTPI federation to seek their own independence. On July 12, 1978, following a Constitutional Convention, these four island states voted a referendum to form a Federation under the Constitution of the Federated States of Micronesia. It was not until November 13, 1986, after many years of hardships searching for agreeable political status, that the Compact of Free Association with the U.S. A. was signed into law. In the agreement, the U.S. federal government will provide guaranteed financial assistance over a 15-year period, administered through the Office of Insular Affairs, in exchange for full international defense authority and responsibilities. Pohnpei was made the capital of the FSM where all national government facilities were housed including embassies of U.S.A, Japan, Australia, and China. Each of the state governments in the new federation created its own constitution. Municipal governments in each state were also encouraged to draft their own constitutions.

The first Compact of Free Association (CFA), also known as Compact I, was ended in 2001. Renegotitation for the second Compact of Free Association (known as
Compact II) between the FSM and the U.S. governments started years before 2001. It took two years after the end of Campact I in 2001 for both governments to agree to all the terms stated in the renegotiation. There were many criticism regarding Compact I that both ends of the renegotiation needed to address (Hezel, 2003). Although agreement terms were made in 2003, it was not until June 25, 2004 that the renewed Compact, Compact II, for FSM was signed into law. The renewed Compact promised the FSM and the Republic of the Marshall Islands a total of $3.5 billion in funding over the next 20 years. In exchange, the U.S. government continued to have military rights and international defense over the island states in FSM.

**Storytelling through a Chuukese Lens**

We are our stories. We compress years of experience, thought, and emotion into a few compact narratives that we convey to others and tell ourselves. That has always been true.

Daniel H. Pink, Author –A Whole New Mind (p. 115)

The subject of storytelling, legends, myths, and folklore in Chuuk has been explored and discussed in various anthropological and ethnographical studies ever since the early 1900s (Bollig, 1927; Community College of Micronesia, 1985; Flood, 1999; Goodenough, 2002; Hezel, 1993; Jeffery, 2004a; Kramer, 1932; Moral, 2002). All of these literatures were written by outsiders whose views are different, shaped by their own cultural background in contrast to those native to Chuuk. My perspective on storytelling in Chuuk comes from my understanding and past experiences as a son of mother Chuuk. To deepen my investigation about Chuukese storytelling, I draw upon the knowledge of the respected elders in my surroundings who live and breathe these stories. In the
indigenous world, knowledge exists in the mind, performance, and stories of people in your circles.

_Tuúttúnnap_ (storytelling) is part of the Chuukese oral tradition that plays a significant role in the transmission of history, culture, values and ways of life practiced by the Chuukese people. Chuuk is rich with oral depictions of the essence of who we are—dating to the creation stories of our ancestors. We remember the daily life accounts of our ancestors, how they wandered our islands and navigated the various seas in the Pacific Ocean, through storytelling. It is through _tuúttúnnap_ that we teach our traditional skills, knowledge, and values.

Before “foreign” contact, _tuúttúnnap_ was the principle means that our ancestors used to describe the Chuukese world and cosmos. It was the tool that navigators and travelers used to share about faraway lands, novel ideas, and newly acquirend skills. _Tuúttúnnap_ remains important today for the preservation, restoration, and transmission of Chuukese history, culture, language, and traditions.

**Beyond Fictional Storytelling**

_Tuúttúnnap_ is not to be confused with fictional storytelling or “entertainment.” The word _tuúttúnnap_ derives from two roots: _túttún_, which means to speak, talk, or to share something valuable or essential, and _nap_, which means enormous or plentiful. _Tuúttúnnap_ means to teach something important, noteworthy, and valuable including names of places, historical events, genealogies, áffáttán noos (protocols), skills, sacred knowledge and respect. In short, _tuúttúnnap_ transmits and recreates our culture in voice and chorus.
Tuuttūnnap includes storytelling form that is imbued with protocol. Elders are usually the chóón tuuttūnnap (storytellers); but not always. Young adults and children are expected to be chóón ééusening (listeners) and practice and rehearse the art within their own circles. When the chóón tuuttūnnap speaks, the chóón ééusening are expected to actively listen.

“Before a skillful or wise elder—for instance a soufóós (traditional speaker or historian), souroong (specialist in esoteric knowledge or cultural wisdom), itang (well-versed traditional chief), or pénu (navigator), teaches someone—he or she takes enough time to observe them making sure that chéénifacher and soroforofer (their wellbeing and behavior) are fitting to the new skill or knowledge they are about to be taught. After trusting and satisfying with what he or she has observed, the elder will finally agree to teach the young man or woman by saying, "Iká a tufich, ka etto pwe sipwe mwo tuuttūnnap (When time permits, come by so we can tuuttūnnap)." (A. Akenus, personal communication, April, 14, 2012)

In regard to stories of “skills” (including farming, fishing and domestic life), listeners may be welcome to interpret, elaborate and retell using their own words and life experiences. Sacred stories and “village wisdom” on the other hand are to be memorized and recited verbatim. In all cases, engagement, listening and memorization are highly valued.

Depending on the nature of the story and setting, the storyteller úútá (stands), móómót (sits) on a póó (higher platform), or kókkón, eiween, or ekkii (lies down) on a kiiiki (mat)—surrounded by his or her listeners. A story always begin with 'Paapasono, paapasoto' (Drifting away, drifting back) or 'Saasapeno, saasapeto' (Looking away,
looking back) "—in effect equivalent of 'Once upon a time...' in English—and is followed be 'a nóónómw' (there lived) (Goodenough, 2002).

The chóón ééúsening are expected to interact by saying “Eehii” at pauses and junctures. Eehii is utilized both as a way to check on the listeners’ attention and to seek permission from the listeners to go on. This interactive form functions both to engage the audience and energize the storyteller.

When the story comes to an end, the storyteller raises his or her voice and says “Mwúúch me essopw maa, tere meimeei” (It is finished and done, all parts end as of now). The listeners respond by saying “Aa sóópw” or “Aa wees” (It ends); and the storyteller then decides whether or not to share another (Bollig, 1927; Goodenough, 2002; Jeffery, 2007).

Túúttúnnap takes place in different places and at different times, including in the uutt (traditional men's house), in the faanang (cooking house), in the imw (family house), in the imwen waa (canoe house), in the pwéén (taro patch), neemattaw (at sea), on the waa (canoe), or at “teachable moments” underneath a coconut or breadfruit tree, when skills or knowledge require instructions.

"Storytellers can take you to the mountains or to the shorelines to show you significant sites, plants, birds, and fish that are mentioned in his or her story" (A. Akenus, Personal Communication, April 14, 2012). Akenus (2012) further added that some stories are meant only for males or females, especially those that transmitted particular gender roles and skills. For instance, stories of faanafan (carving) are appropriate for males and those of féeuféu (weaving) are solely told from mothers to their daughters.
“A standard feature of a túúttúnnap was 'its song' (kéénún)” (Goodenough, 2002, p. 323). When a kéén (song) is part of a túúttúnnap, it is usually sung in the middle or at the very end of the story. Besides setting a mood to the story, kéén are added to ensure the preservation of detailed information and the order of events throughout the story. In most cases, kéén are usually sung by the chóón túúttúnnap except when listeners are expected to memorize detailed information and plot of the story, then they’re invited to sing along—as they practice learning both the story and the song—with the chóón túúttúnnap. Kinako (2012) added that “…eeché túúttúnnap ese mwiiriné ika pwe ese wor kéénún…” (…a story is not good when it doesn’t have a song…) (K. Rayphand, Personal Communication, June 12, 2012).

**Storytelling as a Cultural Tool**

A human being is nothing but a story with a skin around it.

Fred Allen, American Comedian, 1894-1956

*Túúttúnnap* is embedded in every part of the Chuukese culture. Regardless of age, gender, or social rank, everyone has *túúttúnnap* to tell. Even in cases where it is treated more for entertainment, *túúttúnnap* is deeply woven with moral messages that give guidance to people. It teaches and reminds people of social rules and instills a sense of order and continuity with the past. Often times, *túúttúnnap* is used as an alternative voice to express feelings and talk about issues that would otherwise have never been shared or discussed due to social status and gender differences. Bernard (2012) stated that it is almost impossible for a Chuukese male to confront his sister in regards to dating matters. Instead, he would use *túúttúnnap* to express himself hoping that after reflecting
on the *túúttünnap*, the sister can piece together what he tries to tell her (N. Bernard, Personal Communication, August 19, 2012).

**Five Functions of Chuukese Storytelling**

For purposes of this dissertation, I will describe five functions of *túúttünnap* as depicted in the figure below.

![Diagram](image)

**Figure 9. Functions of Chuukese Storytelling**

1. **Uruuwo (Stories Record and Document Historical Events)**

   Long before European contact and the introduction of writing, Chuukese utilized *túúttünnap* to record and document their *uruuwo* (history). We learn about genealogy and the original clans on our islands through storytelling. The story of the Sópwunupi
Clan invading most of Chuuk as described earlier in this chapter explains why most of the traditional chiefs on many of the islands in Chuuk are from Sópwunupi (Goodenough, 2002; Krämer, 1935).

Unlike the western orthodox of storytelling, our historical stories are more concerned with setting, characters, plot, and resolution rather than events and specific dates. "Dates were never important in my father’s stories; if they were mentioned at all, it was in the general category of 'long ago'. Some of these stories were based on historical events—such as battles fought between religious factions in the 1870s—but the focus was always specific to place and characters: where the action took place, who were the main players, what was the order of events, and what were the consequences of their actions" (Hereniko, pp. 79).

2. Isófóós me Isóroong (Stories Preserve Traditional Knowledge and Skills)

Important knowledge and traditional skills that are worth sustaining are persevered and passed on to newer generations through túúttūnnap. Sousafei (medicinal experts) and souset (fishermen) use túúttūnnap not only to preserve their knowledge and skills but also to pass it on to their successors. They believe that having a túúttūnnap as a preserving and transmitting mechanism can help better illustrate what they are trying to convey. According to Stevens (2008) "Indigenous communities have their own tools for preserving and transmitting their traditional knowledge: oral storytelling and experiential instruction" (p. 26).

3. Pisekin Kaait ika Assukun (Stories are Teaching and Learning Tools)

Even today, Chuukese still rely on túúttūnnap to teach customs, values, and etiquette to their children. "Stories also served as vehicles for communicating Chuuk’s
public values and for underscoring what was proper behavior within the framework of…

[Fáiro (a highly humanistic way of living)]…” (Goodenough, 2002, p. 327). Túúttúnnap has the power to capture the attention of young Chuukese. It takes them back into the times where these customs and values were strictly respected and served as main principles. It also brings people together and unites them into one common understanding. Presently with the bombarding outside influence, it is extremely difficult to teach fáiro to any young Chuukese. One successful way to combat this issue is by using túúttúnnap to change the mindsets of young Chuukese and to instill in them some sense of fáiro.

4. Share Personal Experiences and Ideas

In the old days, the only thing that people brought home with them after a long journey was "their story". Upon their returns, people gathered around them listen to their stories and learn new ideas about faraway places. New techniques of tânnipi (farming) and kéúùn imw (house building) are shared through túúttúnnap.


Sometimes an issue cannot be addressed because of the interconnection of social relationships and the long lines of traditional protocols. To cut through these protocols and keep these relationships intact, people use túúttúnnap to indirectly address issues and to discuss topics that are considered taboos. Often times, storytelling may be used as acceptable form to question authorities. After spending some good years in Chuuk learning about the culture surrounding storytelling, Goodenough (2002) stated that,
… so stories can be seen as providing occasions for vicariously indulging feeling that cannot readily be expressed in actual social behavior. The feelings wanting to be indulged are likely to be those that are continually generated in social interaction as such interaction is culturally organized and therefore, in need of finding expression in relatively harmless ways, while at the same time calling attention to the unhappy consequences of indulging them in real behavior” (Goodenough, 2002, p. 327).

Cultural taboos are reinforced through storytelling. Some clans do not eat certain food because of their tiúttúnnap which give respect to their totemic. Some people worship certain birds, animal, or fish and therefore it is a taboo to eat them. In some cases, certain parts of the land are also prohibited

**Storytelling as a Traditional Ritual**

| Ekkupetau mwan          | Hallowing out men, |
| Ese rongorong,          | That don't listen, |
| Ekkupetanong mwan,      | Hallowing in men,  |
| Ee rongorong,           | That do listen,    |
| Ekkupet, ekkupet,       | Hallowing, hallowing |
| Ekkupetii fonu.         | Hallowing the land. |

S. Namewell, personal communication, August 11, 2012

In traditional Chuuk before Western writing was introduced, storytelling was the only tool that used to preserve and pass on knowledge, values, skills, and essential information about our uruuwo (history), roong (esoteric knowledge/cultural wisdom), itaang (specialist in esoteric knowledge and skills/most formal training in esoteric knowledge and skills), and pénú (Navigation/Navigator).
In these four higher level of trainings and sacred practices of the culture and history of Chuuk, such as uruwo, roong, itaang, and pénu, storytelling has to go through a process called sanatefich (a framework) that validates whether a story is true and fitting to integrate and transmit through these formal teachings or practices. Each story must have all of these five elements: (1) Uruwon (its history), (2) Nee kapasan (its language), (3) Étuußúnnap (its story), (4) Kééun (its song), and (5) Éfounnetin (its significant landmark or event).

For example, the Tuußúnnapen ewe Ékkúpetin Ewe Chukun Uman Itan Uroras (The Story of the Division of Mountain Uroras on Uman) as told earlier in this chapter can best illustrate not only a story of creation and the history of the people of Uman but also the division of properties, assignment of duties and responsibilities, and the embedded message that guide and put some sense of authority among the people within their clans and throughout the whole island.

**Learning: Formal and Informal**

As it has been suggested in the above discussion of storytelling, stories are a way in which a learning process can be transmitted from teacher to learner. Learning is an innate human capacity. In his report, Harrison (2006), founder and director of Kineo, a consulting firm in the United Kingdom, stated that, “Human beings can’t stop learning. We learn from things we get wrong and from things we get right” (p.14). People are learning something new almost every single second of their lives. Some researchers have argued that learning even begins in the mother’s womb (Standley, 2001; Hepper & Cleland, 1999; Hepper, 1989). Cross (2007) defined learning as something that “enables
you to participate successfully in life, at work, and in the groups that matter to you” (p. 236).

In many Western settings or those influenced by cultures with long histories of reading and writing, learning is often associated with formal education (i.e., classrooms and schools). Colardyn & Bjornavold (2004) define formal learning as the “learning that occurs within an organized and structured context (formal education, in-company training), and that is designed as learning. It may lead to a formal recognition (diploma, certificate)” (p. 71). In this type of setting, learning is usually official, scheduled, and curriculum oriented. It is a top-down approach where learners’ mastery levels are assessed and graded based on objectives set up by bigger institutions (U.S. National Research Council, 2000).

Again from a Western perspective, informal learning may be understood as everything that occurs outside of formal school settings. It is defined as the “learning resulting from daily life activities related to work, family, or leisure. It is often referred to as experiential learning and, to a certain degree, can be understood as accidental learning” (Colardyn & Bjornavold, 2004, p. 71). In contrast with “formal education” it is unstructured, without explicit curriculum, objectives and time schedules.

These terms, formal and informal learning, have to do with the management of learning objectives and goals (Cross, 2007; Dib, 1988; Harrison, 2006; Sefton-Green, 2004; Werquin, 2010), i.e., the controls that govern and guide the learning. In informal learning environments, the learners set the goals and objectives. With the guidance of a mentor, learners plan out the process of their learning and set the rules necessary to accomplish the task. By contrast, in formal learning environments, the training agents set
the goals and objectives along with the rules that guide and control the learning process (Cofer, 2000). Generally speaking, formal learning refers to the learning activities that take place in schools and “educational” settings. Informal learning comes from observing and participating in home and community activities, and interactions with peers.

While learning is often associated with “schooling” in Western cultures, it has differing histories within many indigenous communities where formal education in the Western sense is a relatively recent introduction.

When we think about learning, we often tend to think about schools, universities, and colleges. If we go a little further and think about learning outside school, we might begin to consider museums, galleries, aquarium, etc. What we often tend to overlook, however, is the sort of learning that goes on as part of our normal day-to-day activities when we don’t even think we are learning. (Sefton-Green, 2004, p. 1)

From earlier anthropological perspective, what was termed “informal learning” in Western cultures has been perceived as the signature form of learning in the pre-contact Pacific region. This is a misperception. Before the introduction of Western schooling in the 1830s, teaching and learning in the Pacific Islands included apprenticeships and other guided learning opportunities were demanding from learners' disciplined observation and imitation of skilled role models. Although this might have appeared through a Western lens as “informal learning”, in fact it included many of the characteristics of formalized instruction familiar to the West. Specific skills and knowledge were taught to the appropriate people when the need arose. For example, boys were taught skills of
navigation and warfare, and both boys and girls were taught different types of crafts and performing arts (Narsimulu, 2007, p. 27).

From his study in the Solomon Islands, Peter Ninnes (1996) recognized that each different culture defined its own learning systems. Learning systems sustain people, culture, and tradition. It identifies uniqueness in cultural groups and it defines values that guide and maintain societies. Juarsek (1995) states that “…culture can impart their own epistemology, their own way of seeing things” (p.228) on the learner (Paige, Jorstad, Siaya, Klein, & Colby, 2000). Further, individuals from specific cultures may have their own learning style preferences—whether through hearing, seeing, or touching (Valiente, 2008; Montgomery & Groat, 2006). In their study in Aotearoa, for example, Newland, Madell, To’o, & Endemann (2011) reported that “Pasifica” students may learn best through hands-on experience, rather than “academic” or “theoretical” approaches.

In many Pacific Island cultures, it is difficult to make a distinction between what is formal and informal learning. "Just like in the global knowledge system, many indigenous communities have formal and informal knowledge" (Semali & Kincheloe, 1999, p. 337). These communities, of course, transmit highly respected traditional knowledge and skills that can only be attained through detailed oriented protocols. This includes extreme sets of evaluations, and great time commitment. Perhaps because the instructional methods differ from Western practices, the Indigenous education system may be mistakenly challenged, criticized, and labeled as informal learning. It has been noted that any traditional body of knowledge or pre-contact learning system may be deemed informal, inferior, and unorthodox in the eyes of the colonizer (Burns, 2001; Hereniko, 2000; Metzgar, 1991; Thaman, 2000).
Learning Chuukese style

The acquired knowledge that has accumulated over a great course of time may be referred to as ‘Chuuk’s learning system’. It is indeed this learning system that enabled the ancestors to survive challenges and hardships. What is known as the ‘Chuuk’ of today—ërenien Chuuk (Chuukese culture), uruwon Chuuk (Chuukese history), nóónómwun Chuuk (Chuukese tradition), and kapasen Chuuk (Chuukese language)—is a product of this learning system.

For the Chuukese people learning is all about survival, assimilation, and acceptance. For instance, Chuukese girls learn weaving and cooking skills for survival purposes. For boys, hunting and fishing trips are never considered a leisure activity but rather means to provide food for children and families. In the outer islands in Chuuk, young men travel thousands of miles not only to prove what they have learned from navigation schools but to be accepted into the pénú community (Goodenough & Thomas, 1987; Goodenough, 2002). In his book, East is a Big Bird; Navigation and Logic on Polowat Atoll, Thomas Gladwin (1970) wrote about his experience regarding the uniqueness of the learning style around the canoe culture in Chuuk, particularly on Polowat Island. He noticed that learning can be very family oriented and that it usually begins as an apprenticeship. Following is an excerpt from his book:

A number of the present-day amster canoe-builders learned their skills through apprenticeship to their fathers. Others were taught by older men who were usually related to them in one way or another. There were a couple of especially able men who each taught several of the present builders. It is thus obvious that there is considerable flexibility in
establishing an apprenticeship. A young man who wishes to learn asks
one of the active canoe-builders for instruction. If the latter is willing and
the pupil apt they work together until the young man is ready to start
building canoes on his own. This may take several years. Often the
apprenticeship begins with the younger man watching the older at work,
asking questions, helping at first only with routine chores and then
gradually with tasks which require increasing degrees of skill. (p. 70-71)

Our learning experiences are the building blocks of the values that we pass on to
younger generations and those that we instill in the minds and hearts of our learners both
at home and in school. Things that we have learned are in fact real life lessons that guide
the way we display our lives, fitting to the standards set by societies. They define our
cultural identities and give meanings to the way we practice our traditions and our
beliefs.

In Chuuk, one can learn many skills informally but to be competent at these skills,
he or she must be formally trained by the experts who have mastered the specific skill.
Chuukese use the word *sine* (being aware of or knowing how to perform or do
something) when referring to a skill or knowledge that one has newly learned or
acquired. It is commonly acceptable to describe someone as 'mei sine' (he/she knows) or
'a sine' (he/she knew) yet it might still requires quite an amount of training time to be
competent at it. Individuals who have gone through formal training, which usually
involves extensive amounts of time and evaluation, are labeled or referred to as *siip*
(comprehensively skillful and knowledgeable), *reepi* (well-versed, acquainted, and
altered) or *mwoot* (excellent and quick especially in warfare techniques).
Learning in Environmental Contexts

The learning environment is another obscuring issue that people often stumble upon when discussing or studying learning and the possible ways to improve it. Researchers at the Victorian Institute of Teaching (ND) conclude that “the quality of the physical environment significantly affects student achievement” (p.1). “There is sufficient research to state without equivocation that the building in which students spends a good deal of their time learning does in fact influence how well they learn” (Earthman, 2004, p. 18).

On the contrary, researcher and designers sometimes raised questions whether the designed learning environment is in fact supporting the content of the learning process or whether it is suitable for the learners. There are concerns whether the “learner should adapt to the learning environment or whether the learning environment should adapt to them [the learners]” (Lippman, 2010, p. 1).

In trying to understand the symbiotic relationship between the learner and the learning environment, Lippman (2010) constructed a question, “… how does the environment shape the learner and, in turn, how does the learner influence the learning environment? In other words: what is the transactional relationship of the learning environment?” (p. 1). Lippman suggested that a learning environment should be designed to embrace practical theory that describes the interaction between the learner and his/her environment.

There is a Chuukese proverb— *iik me ochan, aramas me féun* (Fish belong to certain reefs and people belong to certain places) that people often use to describe the relationship between the learner and the situated learning environment. The proverb
literally means certain types of learning belong to specific learning environments. For instance, a young Chuukese who wants to be a hunter belongs to the jungle or mountains and someone who wants to be a canoe builder or navigator belongs to the imwen waa (canoe house) or one of the two known navigation schools, Fanur and Wáireng. Girls who wish to learn medicinal knowledge and massaging techniques accompany their grandmother or other sousáfei (medicinal expert) to handpick medicinal herbs necessary for the treatment. They are expected to be around the souréwa or sousan (massager) observing and helping out in whatever the souréwa asked them to assist with.

Chuukese have traditionally recognized the vital role that physical settings have on the learner. Uut (men’s house/meeting hall), imwen waa (canoe house), fanang (cooking house), and imw (home) are some of the respected learning places that continually shape many young Chuukese even until today. These learning places do not only teach children about survival skills but they also instill in them a sense of manner. *Kewe chon kaiit* (the teachers) focus mostly on building characters for their learners. At the initial part of the learning experience, students spend an enormous amount of time not only to assimilate themselves into the learning environment but also do chores that they are asked from to do from *kewe chon kaiit*. Often times, these chores are not related to the learning goal, except that they teach self-determination, loyalty, respect, obedience, and devotion. They prepare children to fully engage in community activities dedicating themselves to civic contributions for the betterment of their society. Children enter these learning environments carrying no book and writing tools but rather their ears, minds, and hearts. They are expected to learn and absorb the new knowledge or skills that soon become *manawer* (their life or breath/something worth living for).
Learning from Stories

Telling a story is speaking out anew what you always knew you knew but didn’t know you knew it until you heard yourself saying it and in the telling of it, you, the teller, become the listener too.

The teller and the listener together both discover the process of finding out what the story is all about as one draws the story out of the other and the story tells itself from cover to cover.

Chawkin, 2011

Predating written records, people throughout the world valued storytelling as a principal means of knowledge transmission. In her article, Preserving Traditions and Enhancing Learning through Youth Storytelling, which was based on Bhutan storytelling culture, Scroggie (2009) reminds us about the significant nature of storytelling. "Once upon at time, oral storytelling ruled" (Scroggie, 2009, p. 76). MacLean & Wason-Ellam (2006) stated that "In traditional times, storytelling was used for many reasons - to teach values, beliefs, morals, history, and life skills in Indigenous communities" (7). People learn from stories whether they are traditional stories, legends, personal accounts, or historical telling. All stories have a common purpose—to teach a lesson, transmit knowledge, or convey a message.

Koki (1998) recognizes the vital role of storytelling: "All people have a basic need to share stories" (p. 1). Learning from stories can be described in two ways:

(1) Telling, where people tell stories to pass on knowledge and to teach important skills and
(2) Listening, where people listen to stories to learn valuable lessons and to acquire new skills and techniques.

People utilize storytelling to organize their experiences and record important encounters in their daily lives. In his article, *Power of Stories*, Gargiulo (2006) stated that “Stories are fundamental to the way we learn and to the way we communicate. They are the most efficient ways of storing, retrieving, and conveying information” (p. 5).

Stories tell us the history of a particular area or an era of time. Storytelling is the medium through which "people learn their history, settle their arguments and come to make sense of the phenomena of their world" (Scroggie, 2009, 76).

A number of researchers have looked at the role of stories in learning. They note that storytelling is part of all traditions, although often more valued in traditional cultures (Alterio, 2002; Beach, 2000; Dreon, Kerper, & Landis, 2011; Gargiulo, 2006; Koki, 1998; Miller & Pennycuff, 2008; Powers, 1948; Terrell, 1990; West, 1995). In many oral traditional cultures, storytelling is the heart of the community. Scroggie (2009) further added that, "Stories are the essence of a culture." (p. 76). They allow younger generations to learn oldest accounts about the values of their ancestors and how their ancestors lived their lives. Storytelling also makes it possible for people to record important events and experiences and pass them down to newer generations. People use stories to piece together snippets of their lives and depict them in manageable ways that are possible to share, learn from, and remember. "Stories help tribe members to make sense of their collective experiences, such as illness, death, and conflict, as well as interrelationships, including courtship, marriage, childbirth, and stewardship of nature" (Koki, 1998). Storytelling gives societies coherence and meaning to people's lives. Stories also explain
the customs that dictate the learning behavior in many Indigenous communities. Beside their important role to survival, storytelling also infuses a sense of order in communities and among its members. "We are, above all, storytelling creatures who use stories to do many essential things, like teach and cultivate a sense of personal identity (Ohler, 2008, p. 3).

For many Pacific Islanders, written language did not exist until recently—after post contact with Westerners (Flood, 1999). Many of the traditional stories in the Pacific explain the genealogy and interrelationships among the people. They may also explain the supernatural world (Colum, 1937; Community College of Micronesia, 1985; Hezel & Dobbin, 1995; Hezel, 1993; Lee, Jenny, 2005; TKI Te Kete Ipurangi- Ministry of Education, n.d.). Names of islands, places, landmarks, and significant cultural sites are described in traditional narratives. These stories explain the appearance of certain objects or artifacts, landscape sceneries, and the interrelationships between people, people and place, and people, place and the gods. One might conclude that there is a story behind everything.

In Aotearoa, stories "signal the way in which the pūrākau were viewed as central in the connecting, nurturing, sustaining, and flourishing of [the Maori] people” (Lee, Jenny, 2005, p. 8). When relating to their history, Maori people usually talk about the story of 'Kupe'. According to Maori tribal narratives, Kupe was believed to be the first Polynesian to discover Aotearoa, the Indigenous name for New Zealand (Taylor-Nelson, 2013). Kupe discovered Aotearoa when he left Hawaiki in pursuit of the giant whake (octopus) of his fishing competitor, Muturangi. After killing the octopus, Kupe came back home to find out that his daughters slashed their chests to mourn for their father—
thinking that Kupe would have no chance surviving the whake. The blood of Kupe's daughters poured onto the rocks, which are known to this day as Pari Whero (Red Rocks). Kupe named various places throughout Aotearoa after visiting them. Two of the islands, Matiu (Somers Islands) and Makaro (Ward Island), were named after his daughters. In these stories about Kupe, people also learned that the Indigenous name for New Zealand, ‘Aotearoa’, which means long white cloud in the Maori language was devised by Kuramārōtini, Kupe's wife (Royal, 2012).

Storytelling connects the Native Hawaiian people to their place, experience, and culture (Rogers, 2010; Young (2012). Like other Pacific Islanders, Hawaiians never reckoned their history by dates, but by their genealogies and their place. Many Native Hawaiian histories are rooted in stories that require a particular order when telling. Often when people tell stories about place or the Hawaiian Islands, they tell about a fearless kekoa (warrior) who later became a great king throughout the history of the Hawaiian Kingdom. King Pai‘ea Kamehameha, known also as King Kamehameha the Great, was the most striking figure in ancient Hawaiian history. He came from an Ali‘i (chiefly or royal) family bloodline and he was well trained in Kuialua or lua (Hawaiian martial arts). He fought fierce battles throughout the Hawaiian Islands. After conquering the different islands, he unified them under one Kingdom. King Kamehameha established his headquarter of the new Hawaiian Kingdom on Oahu, where he resided and appointed a chief to oversee each of the neighboring islands. Stories such as this of King Kamehameha’s battles and conquests continued to echo in the Hawaiian Islands through stories, songs, chants, and hula.
“Chamorro society recited oral history and legends that connected them to their natural surroundings” (Quan, 2002). The Chamorro people, Indigenous people of Guam and the Northern Mariana Islands, tell stories about Taotaomo’na in order to teach character values values as respect, obedience, stewardship toward the land and loyalty. In the Chamorro language, Taotaomo’na means the people of before or ancestors (Flores, 2013; Quan, 2002). Taotaomo’nas are the spirits of the ancient Chamorro people. They take interchangeable forms including physically magnificent giants or toothless and even headless creatures The latter are evil spirits who hurt people when they disrespect the land or take something from the jungle or reefs without asking for permission. They can make people sick or leave bite marks on their skins. When someone is possessed with Taotaomo’na, he or she can die unless cured by a local “healer.” From these stories, young people learn that they must call upon the spirits to ask permission when entering a new area or the jungle. They learn the importance of asking for blessings from the spirits especially when taking food, wood, or herbs for medicine from the jungle and when going to see to fish.

A well-known creation story of the Chamorro people is that of Puntan and Fu’una. “Puntan and Fu’una were powerful beings who gave their bodies for the creation of the sun, moon, and sky, and the people, who were created in the image and likeness of Puntan an Fu’una” (Quan, 2002, p. 62). Puntan and Fu’una are two rocks—Puntan is the male rock located in Umatac and Fu’una is the female rock located in Agat. They are believed to be brother and sister who agreed to sacrifice themselves in the creation of the Chamorro people. Today, there are still people that show tribute and praise to Puntan and Fu’una through dance, chants, and pilgrimages.
Storytelling and Learning in Chuuk

Kapas mei manaw, kapas mei oochoch.
In language there is life, in language there is death.

Kintoky Joseph, Traditional Chief of Udot, 1993

According to Keesing (1989) oral traditions are living entities that continue to shape indigenous communities in the Pacific. “Oral traditions are an exceptionally rich source of knowledge among Pacific cultures…” (Wickler, 2002). Storytelling is a paramount aspect of the learning system in Micronesia, perhaps particularly in the islands of Chuuk. Valued learning in Chuuk is not focused solely on reading and writing. Even today, Chuuk does not have a systematic writing system (Cholymay, 2009). What is referred to as the Chuukese reading and writing system varies across the various spoken dialects. Chuuk is an oral traditional culture that embraces storytelling as its major means to transmit and receive significant traditional knowledge and wisdoms. Young Chuukese learned many important survival skills through stories. Fishing, hunting, carving, weaving, and cooking stories taught young Chuukese many of the skills necessary to excel at many of the expected traditional duties and responsibilities. Children learned their history, genealogy, and cultural rules from stories that were told by their parents, grandparents, or elders in their community.

"We are all stories. Stories make us who we are. Stories inform us of our past, support our present, and shape our future" (Harris, 2007), p. 111). Stories enable in-depth learning that is unattainable through normal instruction. (Gargiulo, 2006) (2006) added that “People find common ground through stories...Stories can emphasize shades of meaning and feelings often left hidden or inadequately expressed in didactic forms of
communication” (p. 6). In Chuuk, tūttūnnap is a pivotal learning component in both formal and informal learning. Some Chuukese believe that stories are the noblest form of communication. Beyond anything, tūttūnnap teaches character, something that is impossible to achieve when using other tools of formal or informal instruction.

**Storytelling in the Digital Age**

Like paintings, personal narrative stories that mix images, graphics, sound, and music with the author’s own storytelling voice will exist over time and be enjoyable long past their creation.


The shift from traditional industry to digital industry completely changes the way the world accesses, uses, produces, and presents information. What people refer to as the ‘digital age’ is a world surrounded by sophisticated technology that can amplify the richness of information and eliminate the limitations in terms of accessing information. The digital age gives voice to individuals and allows the to be producers of their own knowledge (Havalagi & Nivedita, 2013). In addition to the rapid shifts, there is a need to change they way we think, do things, and react to the surrounding environment. These demands also changes the way individuals conduct their personal agendas on a day-to-day basis. It changes the way we seek information, retrieve, and do storytelling.

The schools in Micronesia have been mediated by technology ever since the introduction of formal education into the islands. It has been the center of discussions for both learning improvement and the development of the school wider system. It is no longer just an administrative tool at the central office but rather something that is distributed to the outlying schools for instructional purposes. Over the past few years, it
has been integrated into teaching practices and learning activities with the hope to improve student academic achievements.

Recently, computers, projector, electronic typewriters, multi-purpose printers, and other demanding technology can be found even in the remote schools in Micronesia. Despite of their accessibility and their wider distribution throughout the schools, the question in regards to their effectiveness and their proper use still remain indecisive (Johnson, 2000). Perhaps, the greatest challenge that schools encounter in their daily practice is the selection of appropriate technology that best corresponds to the learning objectives (Inoue & Bell, 2006). Today, more than ever before, there is an urgent need to understand how technology plays an essential role in defining and presenting the people's cultural values and beliefs.

The new technological era in the Micronesian school system also brought with it its own problems such as the lack of technical support at the outlying schools, lack of formal training, lack of needed infrastructure to support these technology, limited knowledge about the potentials of the available tools, and the lack of guidelines aligning daily learning activities with curriculum. Perhaps, the greatest problem in Micronesia is the lack of planning and designing lessons that can attribute to learning and at the same time fit to the stated learning objectives defined by the school curriculum. This problem is echoed in (Roschelle, Pea, Hoadley, Gordin, & Means, 2000) (2001), "the gain of learning cannot be attitude to use of technology alone" (p. 79). It is within this environment that a critical need exists to blend traditional learning with the digital age schools now growing in Chuuk.
Preserving and Cultivating Indigenous Knowledge

Stories hold a key to the traditions, the rituals, and the social ways of Indigenous passed on messages about loyalty, respect, reasonability, honesty, humility, trust, and sharing all those qualities that helped them within the relationships in their daily lives. Storytelling was much more than a pastime.

MacLean & Wason-Ellam, 2006

There is a big push in the effort to revitalize and preserve Indigenous knowledge in communities both at the local and international level (Battiste, 2005; Mauro & Hardison, 2000; Wohling, 2009). "Indigenous knowledge is a growing field of inquiry, both nationally and internationally, particularly for those interested in educational innovation" (Battiste, 2005). In the past few years, the United Nation have worked closely with its member nations in creating laws concerning the rights of Indigenous people and developing guidelines that respect, educate, and promote indigenous knowledge. Many nations around the world have taken major steps in developing agencies or cultural centers that oversee their interest in indigenous or traditional knowledge and skills.

These efforts are not only evident in the social sturctures but also in many eduction institutions. Many of these efforts are quite visible in varous Pacific Islands that were profoundly colonized to an extreme that they almost lost their culture, traditions, and language. Hawaii and Guam are perhaps two prominent examples. In Hawai’i, ‘ōlelo Hawai’i, the language of the Hawaiian people have taken major successful steps. "Today, ‘ōlelo Hawai’i is heard among students in preschools to the university system, and the public has access to Hawaiian language content through the Internet, radio, and TV programming" (Ng-Osorio & Ledward, 2011). For many years, after the Spanish
colonized Guam to nearly extermination, the Chomorro people have solidified policies that engulfed efforts in reviving their culture and language.

Education in Guam must be Chamorrocized. Younger generations of Chamorros certainly want this. They want to know the cultural fabric that enables them to identify with Chomorro values and traditions. They want to be as proficient in their own language as they are being made to be in English. They cry out for dignity and respect, for recognition and acceptance of their heritage. (Lujan, 1996)

On October 14, 2013, Governor Eddie Calvo signed a proclamation commemorating the creation of a Chamorro Studies program at the University of Guam (University of Guam, 2013). For the past decades, the University of Guam has been playing an active role in the revitalization and promotion of the Chomorro culture as well as cultures within the Micronesian region. This has led into the establishment of the master degree program in Micronesian Studies, Micronesian Resources at the UOG Robert F. Kennedy Memorial Library, and the Richard F. Taitano Micronesian Area Research Center (MARC).

Today, there is some establishments and funds at the nation level, the FSM government, that solemnly focus on the improvements and developments of local cultures, traditional practices, and significant historical sites across its four member states—Kosrae, Pohnpei, Chuuk, and Yap. The FSM National Goverment also passed into laws certain policies that ensure the sustainability of its customs and traditions and protect its unique histories, cultures, and languages (Kim, 2011). Various offices including NHPO (National Historical Preservation Office), NACH (Office of National
Archives, Culture, and Historical Preservation), and the FSM Visitor Bureau were created to aid in such effort. The Micronesian Studies Associate of Arts Degree Program at COM-FSM National Campus was later created to give college students the opportunities to further explore topics and issues that are critical in understanding customs, cultures, histories, and politics in FSM including some of its neighbor nations in Micronesia. One non-profit agency that serves as a national icon due to its work across the FSM and other areas in Micronesia such as Palau, Marshall Islands, Kiribati, Nauru, Commonwealth of the Northern Marianas Islands, and Guam is Micronesian Seminar. Micronesian Seminar, also known as Micsem, is a research-pastoral institute founded by the Catholic Church in 1972 but was later officially turned over to the Jesuits of Micronesia in 1992. Beside its collections of articles, books, and multi-media, Micsem also produced articles and videos regarding culture, history, politics, religion, social lives, education, and health issues in FSM as well as other places in Micronesia such as Palau, Marshall Islands, Guam, Saipan, Kiribati, and Nauru.

In Chuuk alone, there are different newly created agencies that dedicate their mission to the preservation of Uruwon Chuuk (the history of Chuuk) and the cultivation of Érenien Chuuk (Chuukese Culture). The effort led to the creation of both government and non-profit agencies including the Chuuk Historic Preservation Office (CHPO) in Nepukos on Weno, Chuukese Women's Council in the village of Mwan on Weno, Fin UFO (Ununo, Fongen, and Onongoch) on the island of Fefen, Fairotiw Fairot—a cultural youth center in Nepukos on Weno, SHIP/HOOPS (Society of Historic Investigation and Preservation/Helping Ourselves: Outreach Program in Sports) in Nantaku on Weno, Akoyikoyi Center in Peniesene on Weno, Outer Island Collision
Effort in the Northwest region, and the Soupwun Conference- a annual conference of the traditional chiefs organized by Chuuk State Government. Efforst to revitalize canoe culture, weaving, carving, dances, songs, and other traditional practices were done not only at the grassroot levels but also through training, workshops, and conferences organized by non-profit agencies, municipal governments, state government, and the national government.

At the Chuuk State Departement of Education, there were some amendemends to include essential lessons on Chuukese culture, history, and tradition in different subject areas. This was led to the hiring of cultural specialist who worked closely with teachers to integrate local materials in daily instructional activities. At the College of Micronesia-FSM Chuuk Campus (COM-FSM Chuuk Campus) there were some extensive efforts for
language revitalizations, canoe culture, creation of courses in the social science division that teach traditional knowledge and skills, and the opening of a cultural education center. The cultural education center was created to oversee these efforts and at the same time build strong ties by working with local communities on projects that embraces Chuukese cultural, history, tradition, and language. Two canoes, Pai Pwel (dirty hands), a sailing canoe, and an outriggered paddling canoe, were brought to the COM-FSM Chuuk Campus not only for instructional purposes but also to give students firsthand experience of the canoe culture. Basic navigational skills and local social system were taught to students in the hope to preserve and pass on indigenous knowledge and skills.

With the availability of modern technology, individuals are more likely to integrate audio and visual aids in the way they document, produce, and share their stories. Nowadays, many individuals integrate modern technology in the art of storytelling (Ohler, 2008). According to (Behmer, Schmidt, & Schmidt, 2006), technology, just like traditional storytelling, allows individuals to share their knowledge and experience at a more meaningful level. Ohler (2008) added that effective storytelling would be more important as the technology becomes more powerful. “Technologies are mere exterior aids, but also interior transformations of consciousness, and never more than when they affect the word” (Ong, 1986).
Figure 11. Methodology Layout Plan
CHAPTER 3. METHODOLOGY

Anooni semirit, uwaan ii núféé

The words of a child are the fruit of a young coconut.

Chuukese Proverb, (Bollig, 1927, p. 279)

This chapter describes the methodology for this study including the following topics: (1) research design, (2) research methodology, (3) participants and context, (4) role of the researcher, (5) instrumentation and procedures, (6) treatment, (7) data collection, (8) data analysis, and (9) validity.

Research Design

In design-based research, systematic adjustments are necessary to various parts of the design context so that these changes become a different set of experimentation that allows further testing and generation of new theory (Brown, 1992). "When we discuss design we imply certain ideas about the character of the activities we engage in" (Hoadley, 2002, p. 453) In design research, the focus is often on the product being informed by the users or consumers. The researcher inquires about 'user preferences' (Desjardins, Eaton, & Wagstaff, 2006) and 'user experience' (Garrett, 2011). The focus is not so much on a specific design but rather on how the strengths and limitations of a design inform the development of a product in a local context (Dede, Nelson, Ketelhut, Clarke, & Bowman, 2004). (De Vaus, 2001) discussed two fundamental questions that best inform design research, (1) what is going on (descriptive research)? and (2) why is it going on (explanatory research)? Design research has multiple facets that are of significance to innovation and development especially in local settings. Using design-
based research to inform the design and development of traditionally oriented narrative materials in their local atmosphere resonates with the overarching purpose of this study, the design and development of a Chuukese storytelling website.

Figure 12. Three Stages of Research Design

This is a qualitative study using a design-based research (DBR) method that utilizes a survey and a set of interview questions to seek input and suggestions necessary for design changes and development. Figure 12 illustrates a detailed sketch of the entire
design. It illustrates how a prototype of the 'Túúttúnnapen Chuuk Website' was put through three stages of evaluation and revision prior to arriving at a satisfactory draft. Each of the three different stages contained a different draft of the website, a set of research participants, and a different set of evaluation instruments.

In 'Stage 1', the prototype of the website was created with consultation from three web design experts. Upon the completion of the prototype, a call for participation (as shown in APPENDIX 2) was developed and distributed to potential participants. Once individuals agreed to participate, they were briefed about the study and asked to sign a consent form. After a total of 30 participants were recruited, arrangements were scheduled for administering the survey questionnaire. During each survey, the participants were shown the prototype and asked to evaluate the design and provide deeper insights on what needs to be revised and redesigned. After exploring and assessing the site, participants were asked to fill out a survey based upon their experience with the prototype. To ensure that the objectives of the assessment were met, a survey questionnaire was administered to the 30 research participants to gather immediate feedback and suggestions for improvement and revision. After the 30 participants completed the survey, data were reviewed and analyzed. Feedback gathered from surveys was incorporated into the revisions and the development of the first draft of the Túúttúnnapen Chuuk' website.

In 'Stage 2', the first draft of the website was designed. Five out of the 30 participants from the survey group were recruited to become interview participants. Upon agreeing to participate in the interview sessions, participants were briefed about roles and expectations. They were also given a new consent to sign allowing the
researcher to record the interview sessions. After all consents were secured, sessions were scheduled and the interviews begun. During the interviews, each of the participants was asked six questions. Questions 1 and 2 were intended to answer research question 1, questions 3 and 4 answered research question 2, and questions 5 and 6 answered research question 3. Data from the interviews were collected and transcribed and later analyzed using a 3-coding cycle. Emerging themes from the analysis along with additional suggestions were incorporated into the second revision of the site, which led into the designing of the website's second draft.

In 'Stage 3', the second draft of the website was completed. The same five participants that were in the interview sessions were again asked to go through the revised site and to fill out an evaluation checklist. Along with the checklist, each participant was given a transcription of his or her responses during the interview. The main point of the checklist was to validate responses and to rate how participants felt about the emergent themes that the researcher identified. Comments and suggestions, along with data from the interview checklist were reviewed and incorporated into the third revision and final design of the 'Túúttůonapen Chuuk' website.

**Design-Based Research Methodology**

Design-based research is a research methodology that is commonly used in learning sciences studies. In 1990, Allan Collins first proposed it as 'design-experiments'. It was a methodology known in architectural and engineering institutions but was later introduced into education by Ann Brown and Allan Collins. According to Anderson & Shattuck (2012), design-based research evolved near the beginning of the 21st century and gained popularity as a practical research methodology that effectively bridges the gap
between research and practice in formal education. This particular methodology indicates a direct link between what we learn in research and what we do in practice. In their journal article, *Design research: Theoretical and methodological issues*, Collins, Joseph, and Bielaczyc (2004) provided a detailed definition of design-based research: Design experiments bring together two critical pieces in order to guide us to better educational refinement: a design focus and assessment of critical design elements. Ethnography provides qualitative methods for looking carefully at how a design plays out in practice, and how social and contextual variables interact with cognitive variables. Large-scale studies provide quantitative methods for evaluating the effects of independent variables on the dependent variables. Design experiments are contextualized in educational settings, but with a focus on generalizing from those settings to guide the design process. They fill a niche in the array of experimental methods that is needed to improve educational practices.

Figure 13. Design-based research (Reeves, 2006, p. 59)

Design-based research is appropriate for this study because it seeks to depict human learning and how this learning informs its design or product. It includes many
facets intended to produce new theories, artifices, and practices in naturalistic settings. "Designing principles are fundamental to the conduct of educational design research (or design-based research) studies, research approach that is becoming more widely used in educational research and pedagogy” (Herrington & Reeves, 2011).

Design-based research focuses on the development of sustainable innovation in education. DBR's threefold master question, what, to whom, and how, will be used to frame the instruments of inquiry. Reeves (2006) phases of design-based research will guide the research process and development.

**Participants and Context**

**Participants**

![Participants](image)

**Figure 14. Three Types of Research Participants**

There were three different types of participants who took part in this study: (1) web design experts, (2) survey participants, and (3) interview participants. Unlike survey participants and interview participants who were asked to fill out a survey and answer open-ended questions, the web design experts only provided consultation, suggestions, and recommendation on the prototype design. The web design experts were not required to sign any consents since their roles never directly influenced the gathered data. All participants, except the web designers, were Chuukese who understood, spoke, read, and wrote in the Chuukese language:
1. **Design Experts**: There were three web design experts who consulted on the layout and designs of the prototype. They also made suggestions in regards to cultural sensitivities and appropriateness. All the three participants were male between the ages of 26 to 47. They all have more than five years of experience designing culturally based materials. Two of them work in higher education and one work as a private consultant.

2. **Survey Participants**: There were 30 participants who reviewed the prototype and filled out a survey. The survey participants have a wide range of education and employment background. The youngest participant is a senior in high school and the oldest participant is a retired school teacher. Their ages range from 18 to 71. Aside from the survey, a few of the survey participants also provided comments and suggestions on how to improve the prototype.

3. **Interview Participants**: There were five participants that were selected out of the 30 survey participants to go through the first draft of the website and answer 6 interview questions. The same five participants were also asked to go through the second draft of the site and fill out a checklist.

Manoa Human Studies Program was secured prior to any data collection. All participants' consents were signed, dated, and returned to researcher prior to their participation. There were no monetary exchanges for any services rendered to the study. All data and documents with personal identifications were stored in a locked file cabinet at researcher's place and later be destroyed upon the completion of the study. Throughout the rest of the study process, participants remained anonymous to the extent allowable by law.
## Participants' Demographic

**Table 1. Responses to Survey Part II, Chuukese Culture**

<table>
<thead>
<tr>
<th>Part</th>
<th>Age</th>
<th>Sex</th>
<th>Clan</th>
<th>Island</th>
<th>Highest Grade Completed</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
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<td>F</td>
<td>Fanaw</td>
<td>Udot</td>
<td>Elementary</td>
<td>House wife</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>M</td>
<td>Soor</td>
<td>Fefan</td>
<td>Some College</td>
<td>Retired</td>
</tr>
<tr>
<td>3</td>
<td>56</td>
<td>M</td>
<td>Sapeno/Soufa</td>
<td>Udot</td>
<td>High School</td>
<td>Security Guard</td>
</tr>
<tr>
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<td>Patta</td>
<td>Some College</td>
<td>Sales Person</td>
</tr>
<tr>
<td>6</td>
<td>49</td>
<td>F</td>
<td>Masane</td>
<td>Losap</td>
<td>Some College</td>
<td>Retired</td>
</tr>
<tr>
<td>7</td>
<td>65</td>
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<td>Soor</td>
<td>Weno</td>
<td>BA/BS Degree</td>
<td>Teacher</td>
</tr>
<tr>
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<td>Soporenong</td>
<td>Udot</td>
<td>Some College</td>
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<td>Losap</td>
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</table>
Table Legend: Part = Participants, M = Male, F = Female

Table 1 provided a description of the 30 survey participants. Out of the 30 survey participants, five were then selected as interview participants to answer the interview questions and interview checklists. Twelve males and eighteen females in the age range of 18 to 71 participated in the study. Participants represented 12 clans and eight different islands. Participants included a span of educational backgrounds: three with elementary education, four with some high school education, 11 who had completed high school, five with some college education, three with AA/AS degrees, two with BA/BS degrees, one with an MA degree, and one with a PhD degree. There was a broad range of occupations from homemakers, retirees, food industry employees, security guards, to professionals such as teachers, health worker, and legal aides. Among the 18 female, seven were homemakers.

Table 2. Statements and Responses to Survey Part II, Chuukese Culture

<table>
<thead>
<tr>
<th>Part</th>
<th>Primary Language</th>
<th>Chuukese Ability</th>
<th>Lang. Spoken at Home</th>
<th>Away from Chuuk</th>
<th>Last Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>7 Yrs.</td>
<td>2010</td>
</tr>
<tr>
<td>2</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese &amp; English</td>
<td>10 Yrs.</td>
<td>2010</td>
</tr>
<tr>
<td>3</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>7 Yrs.</td>
<td>2009</td>
</tr>
<tr>
<td>4</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese &amp; English</td>
<td>26 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>5</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>26 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>6</td>
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<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>1 Yr.</td>
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</tr>
<tr>
<td>7</td>
<td>Chuukese</td>
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<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>8</td>
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<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>9 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>9</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
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<td>2001</td>
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<td></td>
<td>Language</td>
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<td>Language(s)</td>
<td>Years</td>
<td>Year</td>
</tr>
<tr>
<td>---</td>
<td>-----------------</td>
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<td>-------------------</td>
<td>-------</td>
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<td>10</td>
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<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>4 Yrs.</td>
<td>2009</td>
</tr>
<tr>
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<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2006</td>
</tr>
<tr>
<td>12</td>
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<td>Chuukese</td>
<td>3 Yrs.</td>
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</tr>
<tr>
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<td>Chuukese</td>
<td>6 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>14</td>
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</tr>
<tr>
<td>15</td>
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<tr>
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</tr>
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<td>17</td>
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<td>Chuukese &amp; English</td>
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</tr>
<tr>
<td>18</td>
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<td>Chuukese &amp; English</td>
<td>9 Yrs.</td>
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</tr>
<tr>
<td>19</td>
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<td>Und, Speak, Read, Write</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>20</td>
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<td>Chuukese &amp; English</td>
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<tr>
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<td>2009</td>
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<td>22</td>
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<td>Chuukese</td>
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<tr>
<td>23</td>
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</tr>
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<td>24</td>
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<tr>
<td>25</td>
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<td>Chuukese &amp; English</td>
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</tr>
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<td>Chuukese</td>
<td>4 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>27</td>
<td>Chuukese</td>
<td>Und, Speak, Read, Write</td>
<td>Chuukese &amp; English</td>
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</tr>
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<td>Chuukese</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Table Legend:** Part = Participants, Und = Understand

Everyone’s primary language was Chuukese. Nine indicated that English was spoken as another language in their homes. Participants had resided outside of Chuuk for an average of 9.7 years. One had lived in Hawai‘i for 29 years, more than half of her lifetime. Two of the participants were interviewed in Chuuk. Although these two participants had traveled outside of Chuuk to places like Saipan and Guam, they both
indicated that they had never resided outside of Chuuk. While the majority had visited Chuuk in past years, six indicated that they had never returned home.

**Study Setting**

There were three different settings for the study. Most of the research was conducted in Honolulu, Hawaii, where 27 of the participants were surveyed and three were interviewed. The majority of the survey interviews were conducted at the College of Education at the University of Hawai‘i at Mānoa with an exception of two that were conducted at the participants’ residence. In Hilo, on the Big Island, one participant was surveyed and interviewed at his home. Two participants were also surveyed and interviewed at their homes on the island of Udot, Chuuk State, FSM.

There are thousands of Micronesians, specifically Chuukese, that are currently residing in Hawai‘i either to seek medical treatment, to further their education, or to secure better employment. "More than 20,000 Micronesians have migrated to Guam, Hawaii, or the Commonwealth of the Northern Marian Islands. Of these immigrants, more than 8,000 now live in Hawaii" (Pobutsky et al., 2005). The year 2001 was termed as the beginning of the 'influx' of Micronesians who migrated to Hawai‘i with the intention to settle down. Many of our people who relocated to Hawai‘i are traditional chiefs, schoolteachers, school administrators, community leaders, church leaders, and former government elected officials.

Since the Chuukese who are currently living in Hawaii resemble the same target population that I might have recruited in Chuuk, it made sense to conduct the research here in Hawaii. Doing this saved a lot of time and transportation costs. Although the participants could have visited the *Tiúttûnnapen Chuuk* website asynchronously, I
preferred face-to-face sessions especially when filling out the survey and answering the interview questionnaires. Specific time and meeting place were decided by each of the participants depending on their preferences and convenience.

**Research Questions**

These three research questions were utilized as a guide to the investigation and exploration of this research project:

**RQ 1:** How does the use of technology influence Chuukese to document, share and preserve their stories?

**RQ 2:** What are attitudes that Chuukese have toward the use of technology as a means to document, preserve, and share their stories?

**RQ 3:** What are some important values to consider when designing a traditional narrative site?

All evaluation instruments were designed to provide the necessary answers needed for these three research questions as well as the revision and development of the website.

**Instrumentation and Procedures**

*Figure 15. Instruments to Inform Design and Developments*

There were three types of instruments (as shown in Figure 15) that were used to gather the needed data for this research: (1) a survey questionnaire, (2) a set of interview
questions, and (3) a interview checklist. Research instruments were designed to gather needed data, whose results influenced the revisions, developments, and the overall designs of the study, specifically the website.

**Survey Questionnaire**

<table>
<thead>
<tr>
<th>PARTS</th>
<th>TOPIC</th>
<th>NO. OF QUESTION ITEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part I</td>
<td>Demographic</td>
<td>12</td>
</tr>
<tr>
<td>Part II</td>
<td>Chuukese Culture</td>
<td>20</td>
</tr>
<tr>
<td>Part III</td>
<td>Technology</td>
<td>10</td>
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<td>Part IV</td>
<td>Tūttūnapen Chuuk Website</td>
<td>39</td>
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<td></td>
<td>Accessibility</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Accuracy and Validity</td>
<td>6</td>
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<tr>
<td></td>
<td>Design</td>
<td>13</td>
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<tr>
<td></td>
<td>Content</td>
<td>11</td>
</tr>
<tr>
<td>Part V</td>
<td>Short Answer Questions</td>
<td>3</td>
</tr>
</tbody>
</table>

**Figure 16. Survey Questions**

The survey instrument consisted of 81 items that were organized into five major parts (See APPENDIX 5 Survey Questionnaire). The driven purpose behind the survey questionnaire was to gather general consciousness, perception, and attitudes that people have in regards to the employment of technology in telling, sharing and preserving Chuukese stories. The survey questionnaire gave participants opportunities to evaluate and share their experiences after navigating the website prototype.
Interview Questions

**RQ 1: How does the use of technology influence Chuukese to document, share and preserve their stories?**

**IQ 1** What do you see as the significant roles of technology in the effort of revitalizing, documenting, preserving, and promoting storytelling?

**IQ 2** Do you anticipate that more Chuukese people would appreciate storytelling when that are created and shared with technology?

**RQ 2: What are attitudes that Chuukese have toward the use of technology as a means to document, preserve, and share their stories?**

**IQ 3** How do you feel about the impact of web technology in its role in documenting, sharing, and preserving our stories? What concerns do you have?

**IQ 4** What are the advantages and disadvantages in the transformation of stories from traditional environment onto the World Wide Web (WWW)?

**RQ 3: What are some important values to consider when designing a traditional narrative site?**

**IQ 5** Should important cultural practices in regards to storytelling be incorporated in the design of any narrative site? If yes, what would they be?

**IQ 6** What designing elements that should be integrated on websites that is built for storytelling?

**Figure 17. Research Questions in Relation to Interview Questions**

The one-on-one interview questions consisted of six item questions. The first two Interview Questions—(Interview Question 1 (IQ 1) and Interview Question 2 (IQ 2)—informed Research Question 1 (RQ 1). Interview Question 3 (IQ 3) and Interview Question 4 (IQ 4) informed Research Question 2 (RQ 2). The last two Interview Questions—(Interview Question 5 (IQ 5) and Interview Question 6 (IQ 6)—informed Research Question 3 (RQ 3). See APPENDIX 6 Interview Questions.
The six research questions provided deeper insights and meanings into initial responses that the participants might have during the survey session. Having the opportunity to revisit the revised website during the interview session allowed the participants to deepen their discussion especially when comparing prior experience to current experience. Using the 6 interview questions to guide the discussion not only controlled the discussion but also pinpointed significant topics appropriate for a talkaloud session.

**Interview Checklist**

<table>
<thead>
<tr>
<th>NO.</th>
<th>QUESTION ITEM DESCRIPTION</th>
<th>TYPE OF ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confirming Response to Research Question 1</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>2</td>
<td>Confirming Response to Interview Question 1</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>3</td>
<td>Confirming Response to Interview Question 2</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>4</td>
<td>Rating Emerging Themes</td>
<td>Likert scale</td>
</tr>
<tr>
<td>5</td>
<td>Confirming Response to Research Question 2</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>6</td>
<td>Confirming Response to Interview Question 3</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>7</td>
<td>Confirming Response to Interview Question 4</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>8</td>
<td>Rating Emerging Themes</td>
<td>Likert scale</td>
</tr>
<tr>
<td>9</td>
<td>Confirming Response to Research Question 3</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>10</td>
<td>Confirming Response to Interview Question 5</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>11</td>
<td>Confirming Response to Interview Question 6</td>
<td>Yes / No and Add. Comments</td>
</tr>
<tr>
<td>12</td>
<td>Rating Emerging Themes</td>
<td>Likert scale</td>
</tr>
</tbody>
</table>

**Figure 18. Interview Checklist**

Figure 18 clearly depicted what was covered in the interview checklist. See also APPENDIX 7, Interview Checklist. The interview checklist consisted of all the interview transcriptions that were given back to the interview participants and a 5-page checklist. Prior to filling out the checklist, participants were asked to review the interview transcriptions. In the checklist, they were asked two things: (1) to confirm their responses and (2) to rate the emerging themes from each set of questions. They were also
given the opportunities to correct their responses and to make additional comments. The purpose behind the checklists was to gather additional comments and recommendations both for the study and the website.

**Treatment**

![Figure 19. Research Treatment](image)

To better understand the research treatment process, the research treatment was compartmentalized into three stages: Treatment Stage 1, Treatment Stage 2, and Treatment Stage 3. Figure 19 illustrated the phases of the treatment stages and the flowing process between the m. For instance, the flowing process from Stage 1 to stage 2, and from Stage 2 to Stage 3.

Stage 1 started with consultation with design experts in order to create the prototype, which was given to survey participants to explore and provide recommendations through their responses gathered from the survey. The survey inquired
about what in the prototype worked and what did not. It also asked what people liked more and what they liked least. In addition, it also

Stage 2 began with the analysis of the data that were provided by the survey questionnaires, highlighting suggestions for revision and redesign. Revision and redesign were made taking in the findings, comments, and recommendations collected from the survey questionnaires. After revision, the product was given to interview participants to revisit the website and provided in-depth data by answering open-ended interview questions.

Stage 3 included analysis of the interview data. Changes on the website were made in response to comments and recommendation provided by interview participants. Interview data were also transcribed and redistributed to interview participants along with the checklist. Participants were asked to review transcriptions and fill out the checklist. In addition, participants were also asked to reexplore the site and for the last time provide feedback and comments. After reviewing data and feedback from the checklist, a few minor revisions were made. After the minor changes, the site was opened to the general public.

Data Collection

Data was collected from three main sources: (1) Survey Data, (2) Interview Data, and (3) Checklist Data. In addition to these three main data sources, memos and observation notes were also reviewed for additional data collection. Data were collected in the order shown in Figure 20, starting from (1) Survey Data, (2) Interview Data, and (3) Checklist Data. Memos and observation notes that were taken during the survey and
interview sessions were also considered. They both provided additional profound understanding of the gathered.

Figure 20. Research Data Collection Process

Data Analysis

Since this was a design process that informed the next new set of developments and designs, analysis was performed right after each of the development stages (Beckman & Barry, 2009; Brown, 1992; Collins et al., 2004; Dede et al., 2004). Narrative data gathered from survey and interviews were analyzed using a three coding cycle—open coding, axial coding, and selective coding (Gasson, 2004). At Lasti and Microsoft Office
Excel 2010 were used for coding and analyzing the gathered data. Graphs and tables were made, using Microsoft Office Excel 2010, to illustrate the analysis.

Figure 21. Process of Data Analysis

Since this was a design process that informed the next new set of developments and designs, analysis was performed right after each of the development stages (Beckman & Barry, 2009; Brown, 1992; Collins et al., 2004; Dede et al., 2004). Narrative data gathered from survey and interviews were analyzed using a three coding cycle—open coding, axial coding, and selective coding (Gasson, 2004). At Lasti and Microsoft Office Excel 2010 were used for coding and analyzing the gathered data. Graphs and tables were made, using Microsoft Office Excel 2010, to illustrate the analysis.
To make better sense of the data, analysis was organized in terms of three different phases:

1. **First Phase of Data Analysis:**

   The first phase of data analysis was performed following the completion of the survey instrument. The purpose of this analysis was to provide the data needed for new developments, which was included during revision and redesigning. Ranking and scoring were used to analyze survey items (Binder, Roberts, & Canada, 2006). Data were entered into Microsoft Excel. Using Microsoft Excel, Graphs and tables were generated to illustrate the data.

2. **Second Phase of Data Analysis:**

   The second phase of data analysis took place after the completion of the interviews. In this phase, analysis focused on the interview data gathered from the open-ended questions. The three coding cycle as discussed by Gasson (2004) and Schwabbauer (1975) were used during the second phase of the data analysis. Following the coding and categorizing process, themes were emerging. Findings during second phase data analysis were implemented during the revision and designing of website.

3. **Third Phase of Data Analysis:**

   During the third phase of data analysis, data were gathered from the checklist and inputted into Microsoft Excel. Graphs and tables were created to illustrate the results of the data. The main thing that happened in the third phase of the analysis were (1) reviewing data that were gathered
to confirm participants' responses and (2) reviewing how participants rated
the emerging themes developed from interview data during the second
phase of the data analysis. Results gathered from the third phase of the
data analysis were used to revised and redesign the third draft of the
website.

**Validity**

"We Africans need to come back to ourselves as a people. It is only the
African who knows best how he can describe and manipulate his
circumstances, his environment. The real thing has to start from here. The
question must be asked here. You can help us take the questions if you
like, but the answers are here. In Africa."

Birgit Brock-Utne, Professor, University of Oslo, Norway.

There is a gray area in the discussion of validity in qualitative research. Because
the focus in qualitative research leans more toward the understanding or illumination of a
situation rather than means of statistical procedures, the validity often depends more on
the richness of the gather information rather than the sample size (Hoepfl, 1997; Patton,
1987). In this study, there are three types of triangulations contributed to the validity of
the research: (1) application of using multiple sources of data collection, (2) using the
same subjects multiple times or in different stages of the research, and (3) member
checklist where individuals reviewed their own data and validated them (Golafshani,
2003).

In Indigenous research, accumulated data are validated by comparing it with data
provided by village elders (Cornejo-García, 2010). Several of the elders in the Chuukese
community were recruited both to serve as research participants and also to assist in
validating my research process. They provided new set of eyes in making sure traditional protocols were followed and shared materials, especially stories and village wisdom, were validated. Cholymay (2013) argued that lived experiences of Chuukese elders should be valid if they have been accepted in previous anthropological and ethnographical works conducted by western researchers. Konai Thaman (2003) recognized the need to have 'indigenous cultural knowledge in order to validate and legitimize [research], particularly in the eyes of indigenous peoples" (p.11).

**Timeline**

The research project was set to be completed in a semester, a total of approximately five months. To achieve the overall project deadline, this adhered to the proposed schedule. IRB approval was delayed; which impacted the timing of proposed steps. It was the second week of February 2014 that the call for participation was sent out to potential participants. Almost every task was delayed by days or a week.

Following is an outline of the tasks and proposed timeline:

**Table 3. Research Timeline after Proposal**

<table>
<thead>
<tr>
<th>Task</th>
<th>Time</th>
<th>Person In Charge</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruiting Participants</td>
<td>1Wk</td>
<td>Researcher</td>
<td>F2F/Virtual</td>
</tr>
<tr>
<td>Surveying 20-25 Participants</td>
<td>2 Wks</td>
<td>Survey Part. &amp; Researcher</td>
<td>F2F</td>
</tr>
<tr>
<td>First Draft of the Website</td>
<td>1 Wks</td>
<td>Researcher</td>
<td>Home</td>
</tr>
<tr>
<td>Conducting (5) Interviews</td>
<td>1 Wks</td>
<td>Interviewees &amp; Researcher</td>
<td>F2F/Virtual</td>
</tr>
<tr>
<td>Second Draft of the Website</td>
<td>1 Wk</td>
<td>Researcher</td>
<td>Home</td>
</tr>
<tr>
<td>Conducting Checklist</td>
<td>1 Wk</td>
<td>Researcher</td>
<td>F2F</td>
</tr>
<tr>
<td>Final Draft of the Website</td>
<td>1 Wk</td>
<td>Researcher</td>
<td>Home</td>
</tr>
<tr>
<td>Rewrite Chapter 3</td>
<td>2 Wks</td>
<td>Researcher</td>
<td>Home</td>
</tr>
<tr>
<td>Writing Chapter 4 and 5</td>
<td>2 Wks</td>
<td>Researcher</td>
<td>Home</td>
</tr>
</tbody>
</table>
No matter how we tell our stories, it is the content of the message conveyed through different channels and forms which counts.

Tingöy, Günefler, Öngün, Demira, & Köroglu, 2006

Figure 22. Screen Shot of the Túúttünnapen Chuuk Prototype

The product that evolved through the different stages of this design-based research is a traditional storytelling website entitled, Túúttünnapen Chuuk (Chuukese...
stories). Data provided by research participants influenced its design and development. Website content was exclusively in Chuukese language with its layout design respectful of local settings. The researcher attempted to embrace the Chuukese culture in every stage of the design. He called upon village elders and community members to share their knowledge and wisdom especially on how the website could best depict and portray traditional lives and values of the Chuukese people.

Figure 23. Screen Shot of the Túúttúnnapen Chuuk Website

All input from the participants was reviewed and considered during the design stages. As the saying goes, "Uweien mwo monus nga watte chopun" (Even the tiny piece
that the ant carries can be heard when dropped). Ultimately, the design went through many iterations, producing an end product quite different from the original prototype (different, even, from what the researcher anticipated). Even if the both sites share the same content, the new layout design and color made the new product far better than the prototype.

Another development that emerged from this research project was a framework outlining new grounds for the development and design of digital formats for traditional narrative materials. This was not only focusing on documentation of traditional stories, but also sharing, preserving, promoting, archiving and revivifying the narrative culture.

**Summary**

This qualitative design-based research investigated user experience and preferences in the development of traditional and local materials in digital formats. A website, Túúttúnnapen Chuuk, was created initially as a prototype by the principal investigator. Three web designers who have some experience producing cultural materials assisted in the early development of the prototype. The site continually modified as feedback and suggestions were provided by 30 survey participants and 5 interview participants.

Deeper insights offered by the 5 interview participants into the importance of storytelling, the transformation of storytelling to web technology, and the overall design of the website continued to inform and influence both the research decisions and the design of the website.
### Tùttùnnapen Chuuk Study Project

#### PARTICIPANTS DEMOGRAPHY

<table>
<thead>
<tr>
<th>Part.</th>
<th>Age</th>
<th>Sex</th>
<th>Clan</th>
<th>Island</th>
<th>Highest Grade Completed</th>
<th>Occupation</th>
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<th>Lang. Spoken at Home</th>
<th>Away from Chuuk</th>
<th>Last Visit</th>
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<td>F</td>
<td>Fanaw</td>
<td>Udot</td>
<td>Elementary</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>7 Yrs.</td>
<td>2010</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>M</td>
<td>Soor</td>
<td>Fefan</td>
<td>Some College</td>
<td>Retired</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2010</td>
</tr>
<tr>
<td>3</td>
<td>56</td>
<td>M</td>
<td>Sapeno/Soufa</td>
<td>Udot</td>
<td>High School</td>
<td>Security Guard</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>7 Yrs.</td>
<td>2009</td>
</tr>
<tr>
<td>4</td>
<td>44</td>
<td>M</td>
<td>Soor</td>
<td>Udot</td>
<td>High School</td>
<td>Lot Technician</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>26 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>5</td>
<td>49</td>
<td>F</td>
<td>Sopunupi</td>
<td>Patta</td>
<td>Some College</td>
<td>Sales Person</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>26 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>6</td>
<td>49</td>
<td>F</td>
<td>Masane</td>
<td>Losap</td>
<td>Some College</td>
<td>Retired</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>1 Yr.</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>65</td>
<td>M</td>
<td>Soor</td>
<td>Weno</td>
<td>BA/BS Degree</td>
<td>Teacher</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>8</td>
<td>39</td>
<td>M</td>
<td>Soporonong</td>
<td>Udot</td>
<td>Some College</td>
<td>Security Guard</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>9 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>9</td>
<td>51</td>
<td>F</td>
<td>Sapeno/Soufa</td>
<td>Lekiniich</td>
<td>AA/AS Degree</td>
<td>Sales Person</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>29 Yrs.</td>
<td>2001</td>
</tr>
<tr>
<td>10</td>
<td>38</td>
<td>M</td>
<td>Wiite</td>
<td>Udot</td>
<td>Some College</td>
<td>School Aid</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>4 Yrs.</td>
<td>2009</td>
</tr>
<tr>
<td>11</td>
<td>38</td>
<td>M</td>
<td>Fanaw</td>
<td>Udot</td>
<td>BA/BS Degree</td>
<td>Unemployed</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2006</td>
</tr>
<tr>
<td>12</td>
<td>49</td>
<td>M</td>
<td>Masane</td>
<td>Ettal</td>
<td>Master Degree</td>
<td>Health Advocate</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>3 Yrs.</td>
<td>2012</td>
</tr>
<tr>
<td>13</td>
<td>31</td>
<td>F</td>
<td>Masane</td>
<td>Weno</td>
<td>AA/AS Degree</td>
<td>Tutor</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>6 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>14</td>
<td>38</td>
<td>M</td>
<td>Fesinim</td>
<td>Uman</td>
<td>Some High School</td>
<td>Cook</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>9 Yrs.</td>
<td>2003</td>
</tr>
<tr>
<td>15</td>
<td>35</td>
<td>F</td>
<td>Imwo</td>
<td>Udot</td>
<td>Some High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>9 Yrs.</td>
<td>2012</td>
</tr>
<tr>
<td>16</td>
<td>27</td>
<td>M</td>
<td>Wiite</td>
<td>Udot</td>
<td>High School</td>
<td>Restaurant Mgr.</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>16 Yrs.</td>
<td>2008</td>
</tr>
<tr>
<td>17</td>
<td>41</td>
<td>F</td>
<td>Imwo</td>
<td>Udot</td>
<td>High School</td>
<td>Cook</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>4 Yrs.</td>
<td>None</td>
</tr>
<tr>
<td>18</td>
<td>39</td>
<td>F</td>
<td>Wanikar</td>
<td>Weno</td>
<td>High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>9 Yrs.</td>
<td>2007</td>
</tr>
<tr>
<td>19</td>
<td>61</td>
<td>F</td>
<td>Pwerekai</td>
<td>Udot</td>
<td>AA/AS Degree</td>
<td>Interpreter</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>F</td>
<td>Wiite</td>
<td>Udot</td>
<td>High School</td>
<td>Food Service</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>21 Yrs.</td>
<td>None</td>
</tr>
<tr>
<td>21</td>
<td>34</td>
<td>F</td>
<td>Fanaw</td>
<td>Udot</td>
<td>High School</td>
<td>Housekeeper</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>12 Yrs.</td>
<td>2009</td>
</tr>
<tr>
<td>22</td>
<td>49</td>
<td>F</td>
<td>Sopunupi</td>
<td>Weno</td>
<td>High School</td>
<td>Caregiver</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>11 Yrs.</td>
<td>2007</td>
</tr>
<tr>
<td>23</td>
<td>45</td>
<td>F</td>
<td>Imwo</td>
<td>Udot</td>
<td>High School</td>
<td>Dishwasher</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>6 Yrs.</td>
<td>None</td>
</tr>
<tr>
<td>24</td>
<td>18</td>
<td>M</td>
<td>Wiite</td>
<td>Udot</td>
<td>High School</td>
<td>Student</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>12 Yrs.</td>
<td>None</td>
</tr>
<tr>
<td>25</td>
<td>32</td>
<td>F</td>
<td>Fanaw</td>
<td>Udot</td>
<td>High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>10 Yrs.</td>
<td>None</td>
</tr>
<tr>
<td>26</td>
<td>55</td>
<td>F</td>
<td>Fanaw</td>
<td>Udot</td>
<td>Some High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>4 Yrs.</td>
<td>2011</td>
</tr>
<tr>
<td>27</td>
<td>59</td>
<td>F</td>
<td>Fesinim</td>
<td>Udot</td>
<td>High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>8 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>28</td>
<td>59</td>
<td>F</td>
<td>Masane</td>
<td>Losap</td>
<td>Doctorate Degree</td>
<td>Legal Aid</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>5 Yrs.</td>
<td>2013</td>
</tr>
<tr>
<td>29</td>
<td>68</td>
<td>F</td>
<td>Moch</td>
<td>Udot</td>
<td>Some High School</td>
<td>Housewife</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>30</td>
<td>71</td>
<td>M</td>
<td>Sapeno/Soufa</td>
<td>Udot</td>
<td>High School</td>
<td>Retired Teacher</td>
<td>Chuukese</td>
<td>Ud, Sk, Rd, Wt</td>
<td>Chuukese</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Table Legend:* Part. = Participants, M = Male, F = Female, Ud = Understand, Sk = Speak, Rd = Read, Wt = Write, Eng. = English

Figure 24. Participants' Demographic
CHAPTER 4. DATA ANALYSIS

This chapter focuses on analyzing the collected data from (1) the survey questionnaire, (2) interview questions, and (3) interview checklist. For easier understanding, results from the survey questionnaires will be shared using graphs and tables. Additionally, I will provide a detailed explanation of how data from the interview questions were coded and categorized, mapping out the significant themes that emerged after data were put through the three different coding cycles (Corbin, 2008; Walker, 2006). Additional discussion addresses the comments and feedback provided by the interview checklist. At the end of this chapter, I will discuss how the gathered data influenced developments of this study, including the changes in design and content of the Túúttúnnapen Chuuk website.

Survey Questionnaire

The survey questionnaire consisted of five parts: (1) Participants' Demographics, (2) Chuukese Culture, (3) Technology, (4) the Túúttúnnapen Chuuk Website, and (5) Short Answers. In the first part, gathered data from the demographic inquiries provided a better understanding of the research participants including possible factors that might have influenced their responses. In the second part, questions focused on assessing the importance to the participants of Chuuk, its culture, history, tradition, and stories. In the third part, questions evaluated the participants' technical experiences, including their perceptions regarding the integration of technology to document, preserve, share, and promote Chuukese culture, tradition, history, and storytelling. The fourth part contained four sets of statements in respect to accessibility, accuracy and validity, design, and
content that informed the revision and development of the website. The fifth part consisted of three short answer questions that inquired about the most and least valuable aspects of the site, and suggestions for its improvement.

**Participants' Demographic**

Figure 24 provides a clear description of the 30 individuals who participated in this study. All of the 30 participants are Chuukese people residing in Honolulu, O’ahu; Hilo, Big Island, and Udot in Chuuk, FSM.

**Chuukese Cultures**

![Survey Responses in Respect to Chuukese Culture](image)

**Figure 25. Survey Responses in Respect to Chuukese Culture**

Figure 25 illustrates the data gathered from participant's responses in respect to the Chuukese Culture. Overall, there was strong support regarding the importance of Chuuk (as a home), its history, culture, customs, traditions, arts, and stories. In Q1, all 30 participants strongly agreed that Chuukese culture is very important to them. All 30 in
Q2 strongly agreed that they identify themselves as Chuukese. When they were asked to confirm the importance of Chuuk's history in their lives, in Q3, 29 checked "Strongly Agree" and one checked "Agree". A majority also recognized the importance of technology in the role of cultural and historical documentation, preservation, and promotion. For instance, all 30 participants indicated a higher interest in materials written in Chuukese language and published to the Internet, as indicated in Q16, Q17, and Q18.

Twenty-nine of the respondents strongly agreed that túúttúnnap is an important part of the Chuukese culture (Statement 10). While we recognize the importance of stories to people's culture and history, it is also important to acknowledge that there is a looming threat to their sustainability. Rudoph Dausab, a Topnaar community leader and environmental activist, acknowledged that the "... tradition of sitting around the fire and telling stories about our past is gone. If you asked a young Topnaar to tell you about their history, he or she will probably not be able to answer you" (DLIST Bengula, n.d.). This alarming admission is supported by my collected data.

Among the lowest ratings (as depicted in Table 4), were 'Statement 11' (I know a few Chuukese stories) and 'Statement 12' (I am willing to share with others some of the stories I know). When participants were asked about knowing stories (Statement 11), one checked "Strongly Disagree', one checked 'Disagree', eight were unsure, two checked 'Agree', and only 18 checked 'Strongly Agree.' I assume that if any respondents lacked or had limited knowledge about Chuukese stories, they would have been less likely to share. This is validated when they were asked about their willingness to share stories (Statement 12), in which two of the participants checked 'Disagree', five 'Unsure', two 'Agree', and
only 21 checked 'Strongly Agree'. It was also not surprising to discover that a low rating was given to 'Statement 19' (I am willing to contribute Chuukese stories to any online preservation and archival efforts), given that there was already a low rating in participants' knowledge of Chuukese stories and willingness to share. In the response to 'Statement 19', two participants disagreed, four were unsure, and 24 strongly agreed.

Table 4 was created to show the interrelationships among the gathered data and to provide a thorough understanding of important values essentials to the Chuukese people, which can be revealed from participants' responses.

**Table 4. Statements and Responses to Survey Part II, Chuukese Culture**

<table>
<thead>
<tr>
<th>Statements</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Chuukese culture is very important to me.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>2. I identify myself as a Chuukese.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>3. I am very proud of being Chuukese.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>4. I always like to display the Chuukese culture in the way I present myself to others.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>5. I always appreciate when Chuukese culture and traditions are performed at important events.</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>6. I enjoy watching video/photos about family, friends, and celebrations taken in Chuuk.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>7. I enjoy listening to Chuukese music or singing Chuukese songs.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>8. The history of Chuuk is an essential part of my life.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>9. I always appreciate learning/listening to Chuukese historical tellings.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>10. Stories (Túúttúnnap) are an important part of the Chuukese culture.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>11. I know a few Chuukese stories.</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>12. I am willing to share with others some of the stories I know.</td>
<td>0</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>21</td>
</tr>
<tr>
<td>13. I always enjoy reading materials that are written about</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>26</td>
</tr>
</tbody>
</table>
Chuuk and the Chuukese people.

14. I would enjoy reading more materials if they are written in Chuukese.  
   0  0  3  2  25

15. I appreciate viewing any materials that are about or related to Chuuk.  
   0  0  1  0  29

16. I believe it is important to start writing and publishing Chuukese materials on the Internet.  
   0  0  0  3  27

17. I would be very interested to read Chuukese materials if they are published on the Internet.  
   0  0  0  0  30

18. It is important to write Chuukese materials in the Chuukese language and publish them on the Internet.  
   0  0  1  3  26

19. I am willing to contribute Chuukese stories to any online preservation and archival efforts.  
   0  2  4  0  24

20. It is critical that we pass on Chuukese stories to our younger generation.  
   0  0  0  1  29

Table Legend: SD= Strongly Disagree, D= Disagree, U= Unsure, A= Agree, and SA= Strongly Agree.

Technology

Understanding people’s technological level is necessary since the focus of this project leans toward assessing people’s attitude and perception of web technology as a medium for documenting, preserving, and sharing native Chuukese stories. To do this, a set of 10 questions in the survey was designed to inquire about people’s usage, attitude, and perception in respect to technology. Following are the 10 questions and underneath each of them is a graph or a table generated to give a better illustration of the gathered responses.

Survey Questions:

1. Have you used or owned any of the following technology?

   Poor technology infrastructures directly impact how people access and use technology. The term ‘island power’ only exists on Weno, the center island of Chuuk where major government and business activities take place.
The rest of the state of Chuuk is without central power utilities. Individuals have to rely on their own small generators or few solar panels for power sources. This is mainly to light their homes and perhaps to watch movies during the night. Television screens and video/DVD players are the most common technologies one can see in many of the homes around the different islands. There is nothing surprising therefore in finding that all 30 participants indicated that they have owned or used a TV, Video, or DVD on the survey. It is also understandable that newly introduced technology would recieve a lower rating—such as computers (13), iPods/MP3 players (13), iPads/PC tables (14), and photo/video camera (13).

![Figure 26. Types of Technology that People Use or Own](image)

One would think that the distance between islands would make it suitable to rely on radio broadcasting. Unreliable power and limited air time have caused many people to lose interest in listening to the radio, however.
This is probably a reason for having only 15 participants who indicated that they have owned or used a radio receiver in their lives.

Twenty-five out of the 30 participants indicated that they have used or owned an iPhone or a smart phone. Wireless communication is the newest and the most fast growing technology in Micronesia. Today, one can make a call using a cellular phone from almost any place within the 1,320 square mile lagoon. It is also common to see individuals logging onto the Internet ten miles away from the center islands.

2. Do you use any of these technologies to record or document Chuukese culture or materials (tradition, history, or music)?

Eighty-three percent of participants indicated that they have used or owned one or several of the technologies listed in Figure 27 to record or document the culture, tradition, history, and music of Chuuk.

![Figure 27. Use of Technology to Recording and Documentation](image)

3. Do you use the Internet?
There are many indicators that demonstrate the existence of the “digital divide” in Micronesia, especially in Chuuk. Sophisticated technology, such as computers and the Internet, were hard to find even in the late 1990s (Rutstein, 2000). Even at the College of Micronesia-FSM National Campus, the Internet wasn’t available until 1995. Today, FSM Telecom (the only communication provider in the FSM) charges $19.90 per month for up to ten hours of dial-up access. At many Internet cafes, it costs $3.00 to $4.00 per hour for a dial up connection. Having only 77% of the participants reporting having used the Internet is unsurprising, given this context.

Figure 28. Internet Usage

On the other hand, it should be noted that many of the remote islands in Chuuk are now connecting to the Internet through long-distance WiFi. This is an ongoing effort of the FSM Department of Education (DOE) in partnership with the Chuuk State DOE. Udot Elementary School, Sino Memorial School on Tonoas, Moch Community High School, and Northwest High School (formerly Weipat Junior High School) on Onoun are among the
experimental sites. It is understood that more schools will have Internet access in the near future (Inveneo, 2013).

4. **If yes, how long do you use the Internet on a daily basis?**

![Bar chart showing the length of Internet usage per day.](chart)

**Figure 29. Length of Internet Usage**

The data showed that 39% of the participants used the Internet for one to two hours per day. This can be correlated to the expense of using the Internet and/or the fact that participants worked in environments that did not require Internet access. Twenty-six percent of respondents used the Internet for 6 or more hours a day. These were individuals who likely used the Internet for work and school purposes.

5. **What do you use the Internet for?**

All participants indicated that they used Internet to search and access information (Research/News= 23) and for entertainment purposes (Video/Photo/Music= 23). Having the ability to access facts and news articles at one’s fingertips changes the way people seek information. This is also true
with the availability of online video, photos, and music. People spend hours on the Internet consuming such media. Seventeen participants indicated that they used the Internet for social media. The same number, 17 participants, also indicated that they used it to connect with families and friends. It is understood that many of these participants used social media such as Facebook, MySpace, or Twitter to communicate with families and friends.

![Purpose of Internet Usage](image)

**Figure 30. Purpose of Internet Usage**

6. *Do you think it is important to use technology to document, preserve, share, and promote the following?*

   Overall, there is a 97% positive attitude toward the use of technology as a tool to document, preserve, share, and promote Chuuk's history, culture, tradition, language, arts/music, and stories. One hundred percent of the participants strongly agreed that technology should be used for language and storytelling documentation, preservation, and promotion. However, it was
evident from these data that Chuukese are still hesitant about the disclosure of their history. History signifies power and authority. When outside people know about the Chuukese people and their history, it means that they have some level of powers over Chuuk and its people.

![Using Technology to Document, Preserve, Share, and Promote Information](image)

**Figure 31. Using Technology for Documentation and Preservation**

Table 5 was created to better illustrate the participants' responses.

**Table 5. Technology and Chuuk**

<table>
<thead>
<tr>
<th>Statements</th>
<th>SD</th>
<th>D</th>
<th>U</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chuukese History</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>2. Chuukese Culture</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>3. Chuukese Tradition</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>4. Chuukese Language</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>5. Chuukese Arts/Music</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>6. Chuukese Stories</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
</tbody>
</table>

*Table Legend:* SD= Strongly Disagree, D= Disagree, U= Unsure, A= Agree, and SA= Strongly Agree.
7. Do you think we should integrate technology when telling and sharing Chuukese stories?

All 30 participants thought that technology should be integrated when Chuukese stories are told and shared.

![Integrate Technology When Telling and Sharing Chuukese Stories](image1)

**Figure 32. Integration of Technology in Chuukese Stories**

8. Do you think that it is important to design website for Chuukese stories?

All 30 participants thought that it is important to design websites for Chuukese stories.

![Design Website for Chuukese Stories](image2)

**Figure 33. Designing Website for Chuukese Stories**

To deeply understand the reasons behind their responses, the following question was given (see Table 6).
**a. Explain why it is important to design website for Chuukese stories?**

**Table 6. Importance to Design Website for Chuukese Stories**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 2</td>
<td>The world is in the information technology age and down the road we do not know what is happening next. Chuuk as a people and therefore culture must keep up at least with technology to preserve their past and foresee the future.</td>
</tr>
<tr>
<td>Participant 5</td>
<td>It's important to design on website, so we can share with the new generation the story and culture of Chuuk.</td>
</tr>
<tr>
<td>Participant 6</td>
<td>To pass thing onto the next generation</td>
</tr>
<tr>
<td>Participant 7</td>
<td>To help promote our stories to others</td>
</tr>
<tr>
<td>Participant 8</td>
<td>For the next generation</td>
</tr>
<tr>
<td>Participant 9</td>
<td>It's very important to share our stories in so many ways (writing, video, pictures),</td>
</tr>
<tr>
<td>Participant 12</td>
<td>To promote cultural learning and creativity among young Chuukese</td>
</tr>
<tr>
<td>Participant 13</td>
<td>To help and share with today's generation who solemnly depends more on technology.</td>
</tr>
<tr>
<td>Participant 14</td>
<td>To know and understand our stories and language</td>
</tr>
<tr>
<td>Participant 16</td>
<td>To help further share the knowledge of the needs—important to know our culture and tradition. And it is also a best way for mostly everybody nowadays to get connected to this. Everybody is now using the net.</td>
</tr>
<tr>
<td>Participant 17</td>
<td>It is creative to show all the children these stories.</td>
</tr>
<tr>
<td>Participant 18</td>
<td>Exactly because many of our people migrate outside of Chuuk.</td>
</tr>
<tr>
<td>Participant 19</td>
<td>It will draw some interest to our children who never expose to our stories to have an appreciation toward our stories, culture, and language.</td>
</tr>
<tr>
<td>Participant 22</td>
<td>To maintain our culture and tradition</td>
</tr>
<tr>
<td>Participant 23</td>
<td>I think it is important to design websites for Chuukese stories because it is easier for Micronesians to go online and then read them.</td>
</tr>
</tbody>
</table>
Participant 24  Because we can learn from those displayed on the web.
Participant 26  So that we don't forget our culture.
Participant 28  Yes, I believe that if we designing website for Chuukese stories is becoming popular, more and more of old, young and even next generation will become interested and will become part of their lives.

9. How important it is to tell and share Chuukese stories to Chuukese living outside of Chuuk?

Figure 34. Telling Stories to Chuukese Living Outside of Chuuk

All 30 participants felt that it is important to tell and share Chuukese stories to other Chuukese living outside of Chuuk. As more and more Chuukese migrate outside of Chuuk, the opportunities to be exposed to stories about such core elements as identity, character, importance of the land, genealogy, loyalty, and respect are limited if not impossible. Among many Pacific Islanders, for example, there is an accepted belief that even though someone may be born and raised on a different island, he or she still belongs to the land of his or her mother. This holds true even today among many of
the Chuukese people residing outside of Chuuk. There is still a very high expectation of Chuukese who were born and raised in the Chuukese Diaspora to behave in a certain way. In addition, they are also expected to possess some knowledge of their cultural roots.

10. *How important it is to tell and share Chuukese stories to Non-Chuukese people?*

![Bar chart: Tell and Share Chuukese Stories to Non-Chuukese People](image)

**Figure 35. Telling Chuukese Stories to Non-Chuukese**

Thirteen percent of the participants thought that it wasn't very important to tell and share Chuukese stories to Non-Chuukese people. In the Chuukese culture, knowledge, stories, and traditional skills belong to certain families or clan. They are meant only to be kept and circulated within that particular family or clan. Eight-seven percent of the participants, however, thought that it was very important to tell and share Chuukese to Non-Chuukese people. Over the past decades, people have started to realize the importance of sharing their culture not only for others to understand who they are but also to accept them as unique individuals.
Túúttúnnapen Chuuk Website

'Part IV' of the survey questionnaire was designed to gather information pertaining to the design and development of the Túúttúnnapen Chuuk Website. There were four components of the analysis of 'Part IV': (1) Accessibility, (2) Accuracy and Validity, (3) Design, and (4) Content.

Accessibility

In 'Statement 1' (Q1: The website loads quickly.), 18 strongly agreed, one agreed, and one was unsure. In relation to 'Statement 2' (Q2: All multimedia are viewable and quick to load.), 18 strongly agreed while two agreed. In 'Statement 3' (Q3: All the links are accessible and free of errors.), 15 strongly agreed, four agreed, and one strongly disagreed. In 'Statement 4' (Q4: Site is viewable in different browsers.), 14 strongly agreed, four agreed, and two were unsure. In 'Statement 5' (Q5: Site is viewable in different operating system.), 17 strongly agreed, one agreed, and two unsure. In 'Statement 6' (Q6: It is available for people with disabilities.), 15 strongly agreed, one agreed, and one unsure. In relation to 'Statement 7' (Q7: It is easily understood by people with various level of education.), 19 strongly agreed and one disagreed. In 'Statement 8' (Q8: Texts are provided in place to convey essential information that is featured within images.), 18 strongly agreed, one was unsure, and one strongly disagreed.

Overall, it seems that there were some alarming area that should be addressed during revision and redesigning. For instance, Q3, Q4, and Q5 indicates that there might be a technical error in the coding. This must be fixed and updated to ensure not only accessibility to the website but also the speed retrieve and send data on the Internet.
Figure 36. Accessibility

Figure 36 was created to show a better illustration of the gathered data in respect to the website's accessibility. Analysis is focused on the following statements: Q3, Q4, Q6, Q7, and Q8 due to their low ratings.

Statement 3 (Q3):

*All the links are accessible and free of errors.*

All links were checked to make sure they were working.

Statement 4 (Q4):

*Site can be viewed using different browsers.*

Participants only used Firefox when they explored the site. Site was tested in Safari and Explorer to make sure it is viewable.

Statement 6 (Q6):

*It is available for people with disabilities.*

Universal Design for Learning (UDL) Guidelines were viewed and applied (Rose & Gravel, 2012).

Statement 7 (Q7):
It is easily understood by people with various level of education

Website had gone through major developments especially by simplifying the language and organizing the layout to make it easily understood and appealing.

Statement 8 (Q8):

Texts are provided in place to convey essential information that is featured within images.

Texts were inserted below images. Short image descriptions were written and added to the website.

Accuracy and Validity

In 'Statement 1' (Q1: All information is reliable and free of errors.), 17 strongly agreed, two agreed, and one strongly disagreed. In 'Statement 2' (Q2: The website is free of spelling, grammar, and punctuation errors.), 13 strongly agreed, three agreed, and three were unsure. In relation to 'Statement 3' (Q3: Homepage covers the validity of the site.), 18 strongly agreed while one strongly disagreed. In relation to 'Statement 4' (Q4: Contents can be verified in other sources.), 19 strongly agreed while one disagreed. In 'Statement 5' (Q5: Editor or author information is provided for validity.), 17 strongly agreed, one disagreed, and two unsure.

Figure 37 was created to illustrate participants responses in respect to accuracy and validity of the website. Analysis on accuracy and validity focused on the following statements (Q): Q1, Q2, Q4, and Q5 because of their low ratings compare to some of the other questions.
Figure 37. Accuracy and Validity

Statement 1 (Q1):

All information is reliable and free of errors.

The website was reviewed by six people in order to avoid errors. The limited written narratives on Chuuk made it hard to warrant the validity of the website's content.

Statement 2 (Q2):

The website is free of spelling, grammar, and punctuation errors.

Pages of the website were printed out and distributed to 6 different individuals who confirmed accuracy of spelling, grammar, and punctuations. It is also important to note that currently there is no one agreed upon, systemized spelling for the Chuukese language. People spell it based on their dialects. It is very possible to four different ways to spell one word. For instance, $kinisow$ (thank you) can be spelled (1) $kinisow$, (2) $kilisow$, (3) $kinisou$, and (4) $kilisou$.

Statement 4 (Q4):
Contents can be verified in other sources.

There was a consideration to rephrase the statement. It seemed confusing to use the word 'sources' without really defining it. Perhaps, the statement should be stated as "Contents of the website can be verified on other websites and in other Chuukese written texts".

Statement 5 (Q5):

Editor or author information is provided for validity.

Authors' information was added to each of the stories on the website to substantiated their validity and reliability.

Design

In 'Statement 1' (Q1: The site's design is aesthetically appealing.), 25 strongly agreed, 2 agreed, and 2 unsure. In 'Statement 2' (Q2: There is an overall-integration of design throughout the website.), 24 strongly agreed, three agreed, and two unsure. In 'Statement 3' (Q3: There is an appropriate use of space, layer, tables, boarders, dividers, and background.), 26 strongly agreed and 3 disagreed. In 'Statement 4' (Q4: The page design is easy to understand.), all 29 participants strongly agreed. In relation to 'Statement 5' (Q5: The site uses appropriate color choices.), 28 strongly agreed while one agreed. In 'Statement 6' (Q6: Font sizes are easier to read and distinguish.), 26 strongly agreed, one agreed, and one unsure. In relation to 'Statement 7' (Q7: The design is appropriate for the target audience.), 27 strongly agreed while two agreed. In 'Statement 8' (Q8: Design allows easier navigation within the site.), 26 strongly agreed, one agreed, and one unsure. In relation to 'Statement 9' (Q9: There is consistency among all internal pages.), 25 strongly agreed while three agreed. In 'Statement 10' (Q10: Having a site map
helps guiding through the pages.), 25 strongly agreed and four agreed. In relation to 'Statement 11' (Q11: Organization makes layout less overwhelming.), 28 strongly agreed while only one agreed. In 'Statement 12' (Q12: There is a good balance of text and image.), all 29 strongly agreed.

Figure 38. Design

Figure 38 illustrates the results of the data gathered from the 12 statements that focused on the design of the Tǔittǔnnapat Chuuk website. Because of their low ratings, analysis of the design focused on the following statements: Q1, Q2, Q9, and Q10.

Statement 1 (Q1):

*The site's design is aesthetically appealing.*

Rollover pictures depicting the Chuukese culture were added to the homepage to make the site more appealing to visitors. Natural images replaced sepia pictures to reveal Chuuk's true colors.

Statement 2 (Q2):

*There is an overall-integration of design throughout the website.*
All pages were recreated using the same background color, font size, and font colors. Borders were adjusted to be identical throughout the site.

Statment 9 (Q9):

There is consistency among all internal pages.

All pages of the website were reviewed and adjusted to ensure consistency.

Statment 10 (Q10):

Having a site map helps guiding through the pages.

Site map was placed on the top of the site, underneath the title.

Content

In 'Statement 1' (Q1: The purpose and scope of the site is clear.), all 29 strongly agreed. In 'Statment 2' (Q2: The content of the site is easy to comprehend.), 28 strongly agreed, one agreed, and one unsure. In 'Statement 3' (Q3: The stories on the site offer some deep insights), 27 strongly agreed, agreed, and one unsure. In 'Statement 4' (Q4: The page design is easy to understand.), all 29 participants strongly agreed. In relation to 'Statement 5' (Q5: The information provided is very important.), 28 strongly agreed while two were unsure. In 'Statement 6' (Q6: The website is unique.), 28 strongly agreed, one unsure, and one disagreed. In 'Statement 7' (Q7: It is easily distinguishable from other similar site.), 26 strongly agreed, one agreed, and one disagreed. In 'Statement 8' (Q8: Content of the site cannot be found on other websites.), 20 strongly agreed, one agreed, and one unsure. In 'Statement 9' (Q9: Fonts are readable and resizeable.), 22 strongly agreed, one agreed, and one was unsure. In 'Statement 10' (Q10: The site contains
elements that encourage future visitation (i.e. blog, forum, or comment page.), 27 strongly agreed and two agreed.

Figure 39. Content

Figure 39 was created to give a better illustration of the gathered data in respect to the content of the Tüüttünnapen Chuuk website. Analysis on the content focused on the following statements: Q6, Q7, Q8, and Q9 not only due to their low ratings but their significance to the betterment of the site.

Statement 6 (Q6):

*The website is unique.*

The site is unique in that it may be the only website currently dedicated to Chuukese stories in Chuukese language.

Statement 7 (Q7):

*It is easily distinguishable from other similar sites.*

Statement 8 (Q8):

*Content on the site cannot be found on other websites.*
These two statements, Q7 and Q8, should be omitted considering the fact that there are no other sites for comparison.

Statement 9 (Q9):

*Fonts are readable and resizeable.*

Although many of the participants were able to read and navigate through the site, knowing how to resize fonts is one thing that should be demonstrated.

**Short Answers**

Three short-answer questions were administered to gain more insight into what the participants liked most about the site, what they liked least, and to gather additional suggestions or comments for improvement. The three questions included:

1. What aspect of the site is most valuable to you? Explain your answer.
2. What part of the website you like the least? Explain your answer.
3. Do you have any suggestions on how to improve the website?

*Most Valuable Aspect of the Site*

**Table 7. Valuable aspect of the site**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 2</td>
<td>The digital aspect as far as I can understand is very valuable because it not only has some archival advantage to our stories therefore our culture but also provide a learning and passing on of the important elements.</td>
</tr>
<tr>
<td>Participant 4</td>
<td>Everything, stories and culture</td>
</tr>
<tr>
<td>Participant 5</td>
<td>Culture and stories</td>
</tr>
<tr>
<td>Participant 7</td>
<td>The introduction</td>
</tr>
<tr>
<td>Participant 8</td>
<td>Our stories</td>
</tr>
</tbody>
</table>
After coding the responses that were gathered from Question 1, the following themes emerged: (1) Archival, (2) Learning, (3) Passing on, (4) Stories, (5) Culture, (6) Introduction, (7) Pictures, (8) Interactive, (9) Islands or Places, (10) Language, (11) Kapasen Ettirow (Words of honorific respect), and (12) Helpful. I then assigned them into two different categories:

1. Aspect of the Website that they valued the most:

   1. *Introduction*

   Giving a short introduction about the site and Chuuk was appreciated by the participants.
2. **Stories**

Participants enjoyed the stories on the website.

3. **Culture**

They also enjoyed reading and watching aspects of the Chuukese culture displayed on the site.

4. **Pictures**

They really liked the idea of having pictures on the site.

5. **Islands or Places**

Giving a short description of the geographical and historical background about Chuuk and some of its significant places was a plus.

6. **Language**

People also valued that the contents of the site was written in Chuukese language.

7. **Interactive**

Participants also liked the fact of having they could download and reuse the stories on the site for their own purposes.

8. **Kapasen Ettirow (Words of honorific respect)**

Having a page to, honor, give credit, and pay respect to the ancestors and the people of Chuuk was highly valued by the participants.

2. The potentials of the Website:

   a. **Archival**
Participants realized that the website has archival potentials.

b. *Learning*

They saw the site as a learning environment where people can learn these stories and important cultural elements. It would be a place to learn to the Chuukese language as well.

c. *Passing On*

They recognized that essential information and cultural aspects could be passed on to others through the website.

d. *Helpful*

They also felt that the website was helpful in providing sharing and promoting Chuuk and its stories.

*Part of the Site You Like Least*

*Table 8. What You Like Least?*

<table>
<thead>
<tr>
<th>Participants</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 2</td>
<td>At this time with limited understanding I have not been able to identify or more appropriately formulate my negative evaluation of the website.</td>
</tr>
<tr>
<td>Participant 15</td>
<td>No. This site is very unique, put together with details.</td>
</tr>
<tr>
<td>Participant 17</td>
<td>I agreed with everything on the site.</td>
</tr>
</tbody>
</table>

Although there were many responses in terms of things that participants liked least about the site, one of them expressed that it was something new therefore he had limited understanding to formulate negative comments. Another participant stated that there was no aspect that she liked least. She thought that it was very detailed and unique. Another participant also stated that she agreed with every component of the site.
**Suggestion for Improvement**

Table 9. Suggestion and Improvement

<table>
<thead>
<tr>
<th>Participants</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant 9</td>
<td>Please add more pictures</td>
</tr>
<tr>
<td>Participant 12</td>
<td>It will be useful to include audio and video storytelling for more interactive purpose. More Chuukese art.</td>
</tr>
<tr>
<td>Participant 13</td>
<td>More cultural pictures and more local songs.</td>
</tr>
<tr>
<td>Participant 18</td>
<td>If sounds or recorded human voices telling the stories can be incorporated into the site.</td>
</tr>
<tr>
<td>Participant 19</td>
<td>Chuukese translated to English</td>
</tr>
<tr>
<td>Participant 28</td>
<td>Fewer words, sound, and accessibility of the site to our people.</td>
</tr>
</tbody>
</table>

The data were coded in order to generate a better understanding of the participants' suggestions in regard to the site's improvement. From the coding process, the following themes emerged: (1) Pictures, (2) Audio, (3) Video, (4) Songs, (5) English Translation, (6) Sound, (7) and Access. I then placed them into three different categories: (1) Multimedia, (2) Translation, and (3) Access.

1. **Multimedia**

   A good number of the participants valued the importance of multimedia (pictures, audio, video, music, sounds, etc.) to be incorporated in the development of the site. They preferred fewer wording but more pictures. They also suggested adding audio and/or video recordings of people telling the stories.

2. **Translation**

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They also saw the importance of providing an English translation of the website. An English translation is needed in order for other Chuukese who were born and raised outside of Chuuk to understand the materials.

3. Access

One participant mentioned accessibility should be something to consider for improvement. While other parts of the world take advantage of fast Internet access that could download large files in seconds, other places, like Chuuk, are still using dial-up—making access slow or impossible.

**Interview Questions**

<table>
<thead>
<tr>
<th>Types of coding</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open coding</td>
<td>The process of breaking down, examining, comparing, conceptualising and categorising data. This process of coding yields concepts, which are later to be grouped and turned into categories.</td>
</tr>
<tr>
<td>Axial coding</td>
<td>A set of procedures whereby data are put back together in new ways after open coding, by making connections between categories. This is done by linking codes to contexts, to consequences, to patterns of interactions, and to causes.</td>
</tr>
<tr>
<td>Selective coding</td>
<td>The procedure of selecting the core strategy, systemically relating it to other categories validating those relationships, and filling in categories that need further refinement and development. A core category is the central issue or focus around which all other categories are integrated.</td>
</tr>
</tbody>
</table>

**Figure 40. Codes and Their Meanings**

In qualitative research, analyzing interview data involves the use of a coding system. The coding system in grounded theory as studied by Strauss and Corbin (1990) involves different phases: (1) open coding, (2) axial coding, and (3) selective coding. To identify useful information from the collected narratives, raw data has to flow through
these three phases. In open coding, important words or groups of words are identified and labeled. After identifying and labeling significant words or phrases, the data moves to the next coding state, axial coding. In axial coding, the labeled words or phrases are combined and categorized. "During axial coding the researcher works to understand categories in relationship to other categories and their subcategories" (Walker, 2006, p. 553). After the sub-categories are connected, the researcher moves to phase 3, selective coding. During this phase, core categories are further combined and integrated resulting in the development of theories. As cited in Walker (2006), "selective coding according to Strauss and Corbin (1988) is the "process of integrating and refining theory" (p. 556).

![Figure 41. Interview Questions Aligning with Research Questions](image)

To better analyze the data gathered from the interview participants, I decided to analyze each set of data in respect to the research questions that they were intended to answer. To accomplish this, I sorted my 6 interview questions (IQ), associating them with their respective research question (RQ). See Figure 41. Having the 6 interview...
questions aligned with the three research questions elucidated not only how the analyzed data answered the research questions but also themes that emerged through the analysis. In the following, these broad themes are derived from the narrative data collected from the interviews.

**Theme 1: Storytelling with Technology**

All study participants embraced the integration of technology. All participants recognized the significant role of technology as a medium to document, share and preserve Chuukese stories. Participants talked about their experiences and observation in regards to technology. They noted how technology has progressed in recent years. Although there were some variances in technological experience and access to technology, all participants voiced the potential of technology to revive and cultivate the culture of storytelling. Five sub-themes emerged from the three-phase coding process. Technology integration into Chuukese storytelling has the potential to be:

1. Empowering
2. Revivifying
3. Transforming
4. Engaging, and
5. Preserving

Each of these sub-themes is described in the section below.

**Empowering**

There is no doubt that technology empowers people. It gives people the opportunities to experience things differently. In many places around the world, technology has become the driving force in the lives of people. Participant #1 stated that
"using technology to tell stories doesn't only improve the distribution of the story itself, but it also gives some sense of pride and importance to the storyteller." Participant #2 stated that, "Túúttunnap mei pwal tongeni echuwenonoNomwun me manawen eMon aramas (Stories can positively impact how an individual displays his or her life)". Participant #4 added:

"Ai wesewen rorongorong kewe túúttúnnap iwe mei fokkun efisata ai upwe tong, ai upwe tongei aramsei, aramasen fonuwei, ika sokkopen aramas. Nang mei fokkun emwochato an inei kewe me semi kewe túúttúnnap pun non kewe túúttúnnap, iwe mei fokkun annisieai upwe kisasew, ai upwe aramaseochnengi esapw chok pwiikewe me fefinei nge pwal menun winiori kewe." (Listening to these stories really help me to love people, the people from my islands or anybody no matter who they are. I hold on to the stories that my mother and father used to share because these stories help me to do good deeds to others. They help me to be generous to others, not just my brothers and sisters but also my neighbors).

More and more people nowadays embrace technology. Using that same technology to present traditional stories can be very motivating. "Ika pwe ach kei túúttúnnap repwe nee nomw won ekkei mecha, iwe repwe nee fokkun amwasangasang nengienouch kewe semirit ika pwal chon fonuzechSeni nomwofetan (If our stories are going to be integrated into these newer technology, then they will be something motivating to our children or others that reside outside of our islands)", noted Participant #3.
Revivifying

Like many cultures in the Pacific, Chuuk has lost tremendous aspects of its culture. The canoe culture that used to be the hub of life in many of our outer islands is now only known on Pollap and Polowat. Many of our young men and women no longer have the interest to learn skills from the elders. One way to spark people's interest and give new meaning to traditional knowledge is through the use of technology. "Met ekkei ra fen poputa nee pout seni kich repwe tongeni manasw sefan, ika pwe sipwe anomota nee piipisek ekkei pisekin ikenai nee manawa sefani (The things that are already dying out slowly can come back to life, if we utilize the advantage of today's newer technology to bring them back.)" stated Participant #2. Participant #4 stated that much of the culture around the cookhouse is now gone. He further explained that people have lost many of the traditional ways to prepare and preserve our food. "Nge ita remwo mano kei sokkun sine ren mong, nge epwe fen ifan kewe tüüttünnap mei anongongon won ekkei sine? (Since it is possible to lose such important knowledge about food. what about the stories that were situated around this kind of knowledge?)", questioned Participant #3.

All participants acknowledged the needs to revitalize traditional knowledge and practices through the use of technology. "Technology esapw chok aamanaw nge a pwal tongeni manawatamei nonomwuch me ereniach kewe, fiti ach kewe tüüttünnap (Technology will not only give life to our traditions, our culture, and our stories but it can also keep them alive for a long time.)," added Participant #1. Participant #4 admitted that "...punun kei mecha ina pwata mei chiwen wor akkakis kei metoch rech ikenai... (...technology was the driven froce behind much of what we still have today...)". (e.g., audio recording chants and written notes about village wisdom).
Participant #4 further added:

"Nge seni non kei metoch, iwe usun epwe tongeni sopwosopono, epwe chok mokutono ekkei metoch, nonomumun erenieach pun kewe pinoon repwe pwal sine. Nge met ei sa feioch ren ikenai iwe, ren ekkei mecha, pwe wewen ika ese wor ekkei metoch iwe ousapw pwal sinei (Due to these technologies, it seems that it is possible for them [culture, traditiona, and stories] to continue, they have to move forward so that the upcoming generation can also learn them. Today, we are fortunate that these technologies can preserve them over decades)."

**Transforming**

In the old days, there were defined physical places for teaching and learning. To learn a specific skill meant one had to be in that specific environment. For instance, a young man who is interested of becoming a navigator will have to go to the canoe house to have access to knowledge. A young girl who wants to be a good cook will have to stick around the fanang (cookhouse) with her mother. With the increasing number of Chuukese who migrate outside of Chuuk, this place-based process is becoming impossible. New ways of providing cultural materials to Chuukese who are living abroad is needed. One way to provide that knowledge is through the use of technology. Technology can transform the learning concept and take it to people who no longer have access to that knowledge. Participant #1 stated:

"Mwan ewe iwe nonomuch mei sokkuno. Kewe uut me fanang iwe aramasach meinisin mei tongeni pwereto ngeni. Nge non ach sia tou nukun iwe a weires an nouch kewe repwe pwal niwinto ngeni kewe nenien kaeo non setich kewe fanang me uut. Esapw chiwen wor ar epwe kuna me
aucheani nonomwuch kewe (The way we live before is different. All our relatives can come to our uut (traditional men's house) and our fanang. But now that we migrated outside of Chuuk, it is no longer possible for our children to have access to the learning places. They will not have the chance to to see the importance of our culture).”

Participant #5 discussed the possibility to use technology to transform these learning places and take it to where the Chuukese people are. "Sipwe angei ach kewe túüttünnap iwe uwau ngeni aramas kewe me ian kewe ra nonomw ian (We need to gather our stories and give them out to our people and the places where they now live)", added Participant #2. "We don't change our stories. We only change how we learn them", stated Participant #1. Participant #5 further added:

"Ika sii era pwe iien ewe ereni nge sipwe nee osokono napanapen ach kaeo ngeni, iwe nge ewe value me auchean kewe mei chok remain the same. Sia chok osokono napanapen pwe epwe soposono manewen ewe ereni non nouch kewe aramas. Iwe ikei, technology epwe fokkun auchea me ian. (If we say, this is the culture but we will only change the way we teach it, then we don't change the value of it. The value and its importance remain the same. We only change is how we learn it so that it lives on through the lives of our people. This is where technology can be really important)."

Engaging

Technology has been highly credited for its ability to engage learning. With the use of technology, Chuukese stories can become very engaging. According to Participant
Participant #4 compared his experience of listening to Chuukese stories to watching a television program about Pohnpeian Culture. He further stated, "e maa amwasangasang ewe pwe sise chok rong nge kich mei pwal kuna (the other one [television] was engaging because we don't just hear it but we also see it)."

"Sipwe anamota Internet, kewe machine, an aramas repwe pwapwa nee sinei, repwe pwal rongorong ach kewe túúttünap (We have to make use of the Internet, other technology, to engage people in learning and listening to our stories)," stated Participant #1. Participant #5 further added:

“E amwasanga netipen aramas ika nengeni an aramas repwe aea ekkei metoch an epwe annisikich nee isoni nonomwuch me met ekkei kich mei ancheani. Sia poputa nee mefi an epwe annisi ach sipwe chechemeni ekkei metoch ren nonomwuch, ach uruwo, me kewe sokkun mei auchea ngeni manawach. (It engages people to utilize these technologies to help preserve our tradition and the cultural materials that we value. We understand it can help us to remember our tradition, our history, and others that are important to our lives.).”

**Preserving**

People use technology to preserve information. All participants have experiences using or observing how technology may be used to preserve information. Participant #4 shared about how he used a tape recorder to record his mother teaching him and his sister to make local medicine. "Iei, mama ese chiwen nomw ngang mei chok tongeni fori kei
metoch pwe seni nei ewe tape. (Now that my mother is gone, I can still perform these things [local medicine] because of my tape.)." With the availability of advanced and cheaper technology today, the ability to preserve essential information through tape recorder, computers, or the World Wide Web is possible. Participant #5 added:

"Non ai uwa nenengeni ikenai, non an rewon ra wonong tūttūnnap non kei metoch ach sipwe tongeni makei, wonong non video, ika pwal kewe sokkun technology, iwe ngang upwe kapas ennet amen fen fokkun namot. Mei namot. mei namot an ei a iei pwe a tongeni an ion epwe etto mwirin nge a menita iwe ra angei ra kuna me non book ra annea, ra kuna me won kewe mecha, non sasing ika video iwe a tongeni an epwe nee sopwosopwono mwokutukutun ar ewe ereni pun a nomw non. (Today, as I observed, it is very important that people preserve our stories in these medium—written records, video, and other more sophisticated technology. And, I want to acknowledge that is very important. It is important. It is better now especially when it can be passed on to younger generations. Later on, people can see them in books, in pictures or videos, and on the Internet. With the use of technology, it is possible that their history will be preserved and cultivated.)."

Participant #1 and Participant #3 also recognized the possibility that our cultural knowledge could be easily lost if not planfully preserved. "Nge ika esapw wor ekkei sokuun iwe u ekkei epwe chok noono iwe kuno, esapw wor ar epwe pwal tongeni weweit (I believe that if there is no [technology] to preserve them, then one day we will lose them, our next generation will not understand them.)", added Participant #3.
Theme 2: Attitudes toward Technology

Everything has both good and bad sides. Like technology, there are also some concerns of how it can impact the Chuukese people and how it can change the Chuukese culture forever. To many of the participants, teachnology is still at its infancy stage in Chuuk, making it difficult to really understand its long-range impact. On the other hand, they also recognized that new developments have always been a concern among the people. People often jump to conclusions asking, "Met ngawan? (What's the negative site of it?)", when you are presenting them new practices or devices. In this study, the participants identified the following challenges associated with digital storytelling:

1. Transfer of Control
2. Open Access
3. Intellectual Property
4. Community Participation

Transfer of Control

Traditional knowledge is owned and controlled by people. It is the people who decide to whom to pass knowledge to, with caution that it will be guarded, preserved, and responsibly passed on. Knowledge is within the people, in mind, in heart, and in veins. The possession of certain cultural knowledge elevates people to higher status in society. Control of knowledge also strengthens the relationship between people. For instance, if I want to be a good fisherman, I need to show respect to my uncle so in return, he might share his fishing knowledge with me. "Mei chok umuno ururun ion repwe angei metoch ika epwe totiw wor, esapw meinisin (It is selective who will have access to the knowledge. It is never for anybody.)", added Participant #1. Technology changes this
traditional practice by replacing the bearer of the knowledge. Participant #2 added,
"esapw chiwen niffinin ion epwe angei watten me ion epwe angei kukunun pwe epwe nee depend won an emon me emon achocho an epwe tonong won ewe site me met epwe angei me won ewe site (It will no longer matter who have access to the knowledge. The amount that one wants to acquire depends on his eagerness to access the information.)

**Open Access**

Access is very important especially in today's technological world. The discussion about digital divides and digital literacy are associated with concerns in respect to access. Participant #4 stated:

"Me nomw nomw, ese pwal kan ii iei usen mecheresin. Ach sipwe kapas ngeni aramasch mei towaw ika nomw epek fonufan, fokkun weires. Nge met ei ren ikenai, sia tongeni kapas fengen, neenefengen, akkaprausen it ii si chok nomw non eew imw. Iwe iei, an ei a wor pwal kei minafen mecha, sia tongeni facebook aaa, ousening fengen kei keen. Met sii mochen watta pwe mefiach won sasingin emon ika an keen fokkun sia pwal tongeni. Mei fen pwal ii tufich ach sipe maa pwal tūttūnnap mwo nge won ekkei facebook a? (In the past, it was never as easy as this to connect with relatives living outside of Chuuk or on the other side of the world. It was really hard. Today, we can easily talk with each other, see each other, and engage in long conversation. It seems like we are in the same house. But now that there are newer technologies, we can use Facebook and listen to music. We can add comments to someone's
pictures or their music. It is also possible to tell stories on Facebook, right?)."

On the other hand, there are also other ongoing concerns such as ethical use, invasion of privacy, and digital crimes. Sometimes, people feel that it is just too much. Participant #2 stated:

"Met ka watte won kei mecha iwe esapw chok chiwen omw pwe an unusen fonufan. Ekkoch metoch ururn esapw pwal tota nge a fen toota. Fan chommong, ururun esapw pwal namot ngeni ekkkoch ar repwe angei nge ra fen pwal angei pwe a tour ngenir. Iwe ikkei met sipwe fokkun pwal tumunuwochuw pwe ese chiwen wor met mei mwonomwon. Pwe a pwapwano ngeni meinisin (What you upload onto the Internet is no longer just yours because now the whole have access to it. Other things that should never post on the web are already posted. Sometimes, information belongs to a certain group of people but now anybody can access it as well. So these are the things that we need to be really careful about. There is no more such thing as privacy.)".

Participant #4 mentioned that he was sometimes surprised to see inappropriate cultural materials on the Internet. He added, "Fan chomong sia watta sasingin mei maa ar ra totiw non pwaang. Usapw sinei, ngang mei fokkun osufenu. Ita kei sipwe pwal tumunuochuw esapw pwal ina nenian (Many times, I've seen pictures of people's casket at the burial ground. I am not sure but I felt that it should have been more respected. Things like this we have to really be careful of.)".
**Intellectual Property**

In terms of intellectual properties, people see the potential of how the technology can be used to reclaim what once belonged to Chuuk. In many previous anthropological and ethnographical researches, our places and our people have been treated either as subject or data. For a long time, western scholars have been the ones to write 'about' Chuuk and the Chuukese people. Across the Pacific, there is a growing movement to encourage native people to write and produce materials for themselves. Participant #5 stated that:

"Sia mefi pwe sipwe angei ekkei metoch pwe sipwe balance me a fen tou nukun. Awewe, sia meifi pwe sipwe nee pwisin makei ach uruwo, sia mefi pwe sipwe pwisin for nouch video pwe sipwe aprousa pwe a fen wor a fen fori ekkei metoch. Ekkewe mwan iwe chon nukun. Sipwe nee pwisin fichi nouch kewe sasing me maakei pwisin nouch kewe book me ach kewe tūttūnnap. (We believe that we should get a hold of these technologies to balance what we have lost. We believe that we will start writing our how history, we feel that we should make our own films. We will take our own pictures and write our own books and stories.)."

Participant 3 further added, "Sipwe nee enwini sefaniteto ekkei metoch nge epwe seni pwisin kiich" (We will bring back these things [stories] but it now is going to be by ourselves)."

**Community Participation**

Technology has the ability to take our stories to more people both locally and globally. It increases participation by allowing more people, despite differences of time or physical place, to take part in given projects. All participants recognized the role of
social media a new trend in today's notion of community building and participation.

Participant #5 added:

"Ika emon echok postini sasingin ar niap ewe iik umuno, iwe seni mainland, hawaii, guam me ina kewe chon Ettal re nomw nukun, kuna ewe sasing iwe ra poputa nee comment won, like....ese pwal mee wate an emon epwe fichi ewe meen wata won Facebook nge that itself reach so far. (If someone posted a picture of a fish that he caught—umuno (a reef fish) then from the mainland, Hawaii, Guam, and everywhere else there are people from Ettal will see the picture then they start to add comments, click like. It is not expensive to take the pictures then post it on Facebook)."

Participant #1 also added:

"Ina popun merei mei fokkun auchea, esapw chok ren an epwe soposopwon me tumun ekkei metoch nge auchean epwe pwal wor neneian an aramasen fonuwach repwe pwisin anamotoa nee apwapwa ngenir porousen fonuwach non tufichin ikenai (For me, I think it is really important to have these things continue and be protected. The most important thing is to have a place where our people will engage themselves with stories from our islands. Stories created by our own people)."

**Theme 3: Traditional Values regarding Technology**

Representation is paramount to any Indigenous population. Creating materials that represent a group of people, their culture, and their place is not an easy task. Giving people the opportunity to talk about values that are central to their lives can influence the
design of the material. In this research, participants were asked to identify Chuukese values that may guide the process of the web designing project. When designing culturally responsive materials, traditional values to be considered include:

1. Honorific
2. Protocol Driven
3. Interconnectivity

Each of the sub-themes is described below.

**Honorific**

Participants often talked about the fact that knowledge in Chuuk is not owned, it is shared. The stories that tell of our people and our land belong to our ancestors. Village wisdoms are passed down from generation to generations. "Tipachemin nomw nge sia tongeni aea ikenai" (The wisdom of the past but we are able to use today.)," stated Participant #1. Participant #2 further added, "Pokiten esapw wewesen ach, iwe mei och sipwe ettirow won ach kewe newo, kewe mei watte, pwal ion ewe mine an (Because it is not really ours, then we must give honor to our ancestors, those that are older than us, and to those the knowledge really belongs to.)."

Participant #4 advised the youth about the importance of giving. "Ngeni ami kei sarafe ikanai, iwe mei fokkun eoch ami opwe ettirow, won ion soufosun fonuwoww ewe ka kaeo senir pwal kewe soufoun ewe neni ka kapas ian (To you the youth today, it is crucial that you honor those Itaag from your island from whom you learned; and the chiefs of the places to whom you are speaking)." Participant #2 also stated that when we honor those whose knowledge we acquire, we not only bless the ancestors, make the
knowledge trustworthy in itself. Participant 3 saw the importance of *fairo* (being respectful and humble) especially when one honors and credits others.

Participant #4 stated:

"*Ika pwe sippwe kaeo me won samach, iwe mei pwal eechoh sipwe ettirow won Samach kewe. Ika pwe mei wor pwiich watte, ika mwo resapw pwal sine ereni, nge mei fokkun eoch sipwe pwal ettirow wor. Sisapw fen paani kewe soufos en mei sine merer. Mei fokkun auchea sipwe chok ettirow wor ika mwo ra mano.* (If you learn thing from your father, then you should honor him. If you have older brother even if they don't know any cultural protocols, it is important nonetheless that you seek their respect and permission to speak. Even if the *itaang* should pass away, it is still important to honor and give credits to them.)"

**Protocol Driven**

Because stories are central to our culture, they are protocol driven. Stories hold significant and sensitive information. Often, they represent the only documentation for our history, our genealogy, our land tenure, and relationships. There are stories for specific purposes which can only be recounted within specific contexts. Participant #4 stated that stories are situated in a culture for distinctive purposes. "*Ekkoch túúttúnnap iwe mei kan pwal chok affofotof chon anni, inet atun sipwe anni, mei ian sipwe anni me ian* (Some stories can only be told by certain people, at certain times, at certain places, and for specific reasons.)"

It is also important that people attend to how stories are told. Participant 3 stated that it usually must always begin with "*Papaselo, Papaseto* (Drifting Away, and Drifting
Participant #3 mentioned that at the end, the storyteller yells out "Much me Esopw ma (It ends, it ends) and the listeners responded saying "Taremeimei (it really ends)".

**Interconnectivity**

Storytelling is about people and their places. It tells about their interconnections with one another. People often introduce themselves before telling a story. This is to trace the connection between themselves and the story they are about to tell. Participant #4 added:

"Aramas repwe fokkun nukuw ewe túúttúnnap ika pwe en mei fokkun pwarata ion kewe ke sinei merer. Kewe aramas mei sinei ewe aramas iwe repwe nee fokkun era ooh iwe mei pung pun ewe aramas ka sinei meren iwe emon soufos (People will believe in your story if you establish your connection to the person from whom you learned it)."

Participant #2 added that, "Mei wor túúttúnnap mei moropei fonuwach kei. Non kei túúttúnnap mei parata ach sai fetan. Mei pwal pwarata newotoch ika wewen nefinen chommong aramas. (There are stories that tell of Chuuk as a whole. In these stories, it talks about voyages and how people make connections on different islands. They also trace where we come from and the relationship we have with other people.")"

**Interview Checklist**

The purpose of using a checklist in this study was to confirm responses that participants made during the interview sessions and to validate the emerging themes
generated from the interview data analysis. One graph and three tables were created to better illustrate the findings from the interview checklist.

Confirming Statements in Response to Research and Interview Questions

![Confirming Statements in Response to Research Questions (RQs) and Interview Questions (IQs)](image)

**Figure 42. Confirming Interviewing Responses**

As shown in Figure 42, all five participants agreed to the accuracy of the quoted statements (their own responses) made during the interview sessions in respect to research question 1 (RQ-1), interview question 1 (IQ 1), interview question 2 (IQ 2), research question 2 (RQ-2), interview question 1 (IQ 3), interview question 2 (IQ 4), research question 3 (RQ-3), interview question 5 (IQ 1), and interview question 6 (IQ 6). Although participants were offered the opportunity to make additional comments, corrections, deletions, none chose to do so.
Confirming Sub-themes: Storytelling with Technology

Table 10. Storytelling with Technology

<table>
<thead>
<tr>
<th>Theme1: Storytelling with Technology</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-themes</td>
<td>SD D U A SA</td>
</tr>
<tr>
<td>1. Empowering</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>2. Revivifying</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>3. Transforming</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>4. Engaging</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>5. Preserving</td>
<td>0 0 0 0 5</td>
</tr>
</tbody>
</table>

*Legend: SD= Strongly Disagree, D= Disagree, U= Unsure, A= Agree, SA= Strongly Agree*

All participants agreed to the sub-themes generated from the analysis of research question 1 and interview questions 1 and 2, including under theme 1, Storytelling with Technology. All 5 participants strongly agreed to all the 5 sub-themes: (1) Empowering, (2) Revivifying, (3) Transforming, (4) Engaging, and (5) Preserving.

Confirming Sub-themes: Attitudes toward Technology

Table 11. Attitudes toward Technology

<table>
<thead>
<tr>
<th>Theme2: Attitudes toward Technology</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-themes</td>
<td>SD D U A SA</td>
</tr>
<tr>
<td>1. Transfer of Control</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>2. Open Access</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>3. Intellectual Property</td>
<td>0 0 0 0 5</td>
</tr>
<tr>
<td>4. Community Participation</td>
<td>0 0 0 0 5</td>
</tr>
</tbody>
</table>

*Legend: SD= Strongly Disagree, D= Disagree, U= Unsure, A= Agree, SA= Strongly Agree*
All participants agreed to the sub-themes generated from the analysis of research question 2 and interview questions 3 and 4 under theme 2, Attitudes toward Technology. All 5 participants strongly agreed to all the 4 sub-themes: (1) Transfer of Control, (2) Open Access, (3) Intellectual Property, and (4) Community Participation.

**Confirming Sub-Themes: Attitudes toward Technology**

**Table 12. Traditional Values regarding Technology**

<table>
<thead>
<tr>
<th>Theme 3: Traditional Values regarding Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-themes</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1. Honorific</td>
</tr>
<tr>
<td>2. Protocol Driven</td>
</tr>
<tr>
<td>3. Interconnectivity</td>
</tr>
</tbody>
</table>

*Legend: SD = Strongly Disagree, D = Disagree, U = Unsure, A = Agree, SA = Strongly Agree*

All participants agreed to the sub-themes generated from the analysis of research question 3 and interview questions 5 and 6 under theme 3, Attitudes toward Technology. All five participants strongly agreed to all the three sub-themes: (1) Honorific, (2) Protocol Driven, and (3) Interconnectivity.
CHAPTER 5. CONCLUSION

Ee amwasanga netipach aramas ach sipwe nounou ekkei technology ar repwe annisi kich nee isoni nonomwuch, ach uruwo, me met kewe sokkun mei auchea ngeni manawach usun kich aramasen Chuuk.

We embrace the ethical use of technology in our efforts to preserve our culture, our history, and those essentials to our lives as Chuukese people.

Joakim Peter, Social Science Professor, College of Micronesia-FSM

The overarching goal of this study was to investigate whether a design-based website would be viable to document, preserve, and share traditional Chuukese stories, including an examination of user preferences regarding web technology to support a participatory approach among Chuukese to continue telling, sustaining, and protecting their stories. To arrive at this goal, three research questions were proposed:

1. How does the use of technology influence Chuukese to document, share, and preserve their stories?

2. What are the attitudes that Chuukese have toward the use of technology as a means to document, preserve, and share their stories?

3. What are some important values to consider when designing a traditional narrative site?

To answer the three research questions, six interview questions were developed to gather the qualitative data needed to answer the investigation. Data were collected from using three sets of instruments across a three month period. This began after the development of a website prototype, which was provided to 30 research participants who
explored the site and provided feedback regarding redesign and redevelopment. The second set of data was collected from five interview participants, selected out of the 30 initial participants, who re-explored the revised website and responded to the 6 interview questions. The last set of data was collected from the same five participants in the interview sessions who, for a third time, revisited the site and filled-out a checklist.

Although it is a design-based study, it was important to understand the value and significance of storytelling to the Chuukese people through an extensive review of background resources. It was also necessary to know the roles and position of storytelling within the contexts of culture, tradition, and history of Chuuk. Learning how Chuukese people perceive technology was important since this research proposed an alternative venue in today's digital world, in which Chuukese stories in digital formats may be continually documented, shared, and preserved.

**Implication**

In this chapter I will focus on the implications of the research findings in relation to the purpose, the research questions, and the findings. Emerging themes, and developing theories will also be included.

I want to state at the outset that the findings suggest that Chuukese people are willing to have their stories documented, shared, and preserved on the Internet. When participants were asked whether they want to integrate technology into Chuukese storytelling, all 30 research participants respond with resounding support. When they were asked whether it is important to design websites for Chuukese stories, all enthusiastically agreed. This enthusiasm provided a critical foundation for my research;
for if the Chuukese community had expressed doubts about the Internet and its digital storytelling forms, no further research would have been appropriate. There would have been no need to design websites in the absence of community support.

**Technology Influences Chuukese to Document, Share, and Preserve their Stories**

To understand whether a design-based website is viable in documenting, preserving, and sharing the stories of Chuuk, one must also understand how the technology impacts its users—the Chuukese people. In doing this we need to understand how they perceive the technology. What do they see when they look at a website that displays their culture and tells their stories? What does it really mean to them? We need to understand what they see beyond the technology. What are the potentials that technology can offer for my Chuukese community?

One of the problems addressed in this research was the loss of many of our traditional stories due to changes in social living, outbound migration, western influence, and the passing of our elders (Hezel, 1992; Hezel, 1972; Pobutsky et al., 2005). We have experienced uncalculated loss. When participants were asked to identify whether or not they knew Chuukese stories, only 60 percent of the participants acknowledged such wisdom. Findings also indicated that technology influences people's engagement in documenting, sharing, and preserving their language. All of the participants strongly agreed they would enthusiastically embrace digital storytelling and Internet publication, regardless of any particular technology device.

There were five significant themes that emerged from the first research question: Digital storytelling and Internet publication can be (1) Empowering, (2) Revivifying, (3) Transforming, (4) Engaging, and (5) Preserving.
The first theme is 'empowering'. People believe that technology changes our lives. Technology empowers communities to document, preserve and promote their culture, history, and place.

The second theme is 'revivifying'. Many important cultural elements are disappearing because they no longer fit with today's social living conditions. We can never recreate the way our ancestors told stories, but with technology we can bring back something of our storytelling traditions. However, we can capture and recreate at least some of our stories and situate them into multimedia/new media environments that our children are known to frequent. Today, those environments are their “digital corners.”

The third theme is 'transforming'. I remember taking a trip to Chuuk some years ago. One of my friends, who had no concept of what Chuuk, wanted me to bring him some pictures to enliven his imagination. With an 8mm Sony camcorder and a floppy disk digital camera, I was able to do the job, transforming a 1,320 square mile lagoon into an 8mm tape and floppy disk. Today, with more advanced technology, we can do far better than what I accomplished. One of the participants, Participant # 5, noted that with today's technology we have the ability to “telecommute” our utt and our fanang to where our people now reside.

The fourth theme is 'engaging'. Participant # 2 described his experience with his granddaughter who spends far more time reading her electronic books on her iPad than the print copies that she might choose. With the integration of technology, we may be able to engage many of our youth to read our túáttánnap. Perhaps, they will also play active roles in producing or reproducing their own versions of our stories. It is already
common to see many versions of the same Chuukese songs and stories published on YouTube with personalized pictures and graphics.

The fifth theme is 'preserving'. Consensus among research participants indicated that the most influential impact that technology could have on Chuuk and its people is cultural preservation. There is so much to remember and still so much to be learned. At ceremonies on the islands, it is now acceptable for people to use camcorders, phones, tape recorders, and cameras to record the venue. This is perhaps particularly important given the Chuukese diaspora, in which so many of us are far from home and motivated to connect, contribute, remember and be remembered.

**Attitudes that Chuukese Have toward the Use of Web Technology**

To examine user preferences regarding web technology that influences a participatory approach among Chuukese to continue telling, sustaining, and protecting their stories, one must put into consideration the significance of understanding their attitudes toward the technology. We need to understand how they really feel about the technology. There is a need to understand the multiple facets of their attitudes. It is critical to know their concerns and reservations.

One of the concerns that was raised concerns the vital role that storytelling plays in the culture and language (Alterio, 2002; Koki, 1998; MacLean & Wason-Ellam, 2006; Miller & Pennycuff, 2008; Peck, 1989; Terrell, 1990; Tingöy et al., 2006). Findings from this research reiterated the importance of storytelling in the Chuukese culture. When participants were asked to confirm that stories are an important part of the Chuukese culture, 97 percent strongly agreed. When asked to use a Likert scale of 1-5 to rate significance, they responded: (1) history- 93% very important and 7% important, (2)
culture- 97% very important and 3% important, (3) tradition- 97% very important and 3% unsure, (4) language- 100% very important, (5) music- 97% very important and 1% important and (6) stories- 100 % very important.

There were five significant themes that emerged from the second research question: (1) Transfer of Control, (2) Open Access, (3) Intellectual Property, and (4) Community Participation. The first theme is 'transfer of control'. Traditionally, stories belong to certain people, certain clans, or specific islands. A navigator possesses the skills and knowledge in his head and his blood. He chooses who to teach, what level of that knowledge to give, and how it will be learned. With technology, the control will no longer be in the hands of the navigator. Anyone who can log onto the website can learn it on their own terms. On the other hand without the Internet, if the navigator's son should reside in Hawai'i and never has the time to spend with his father, the son will never learn the skills; and when his father passes away, the knowledge and the skills will be buried with him. Participant #1 stated that it is better having something documented than to lose it forever.

The second theme is 'open access'. Everything on the web can be viewed globally unless it is censored, filtered, or password protected. When we post Chuukese stories on the web, anyone can have access to them no matter what. Participant # 4 felt that there is no such thing as privacy when things are published to the Internet. Ironically, it is this open access that allows people to connect with one other. Open access enables collaboration across remote places. It enables many of our people who are residing in the Chuukese Diaspora to connect with families and friends back home or in other far away places. Understanding the consequences of open access, Participant #5 would rather
make Chuukese stories available to nephews and nieces born and raised outside of Chuuk than to deprive them of such knowledge.

The third theme is 'intellectual property'. Looking at YouTube, today, we see many examples of stolen material, especially in music where it can be impossible not to pinpoint an artist or his/her tracks. Many people download others' materials; touch them up; and then re-uploaded them. This is a similar example that was given during the interview sessions. Today, many Indigenous people want to write their own stories. We want to be recognized and credited for our own work. With technology, our dream of intellectual property confronts this disturbing reality. As we develop our own voices, we will be able to talk about our own issues with our own mouths rather than having someone do it for us. We will be able to contribute to the discussions of our islands on the same table with larger and more developed countries. At last, our stories, issues, and voices may be heard globally.

The fourth theme is 'community participation.’ Using web technology to tell Chuukese stories will allow more people to participate, and also reach places that have never before been possible. Chuukese that are living across the world will now participate and reconnect with what they have lost.

**Important Values to Consider when Designing a Traditional Narrative Site**

When we are tasked to produce any culturally sensitive materials, we have to be cautious. It is not only what we are creating but for whom. Representation is an important issue to consider. Finding the right tune that satisfies both the designers' creativity and the people’s interest is difficult and challenging. To do this, both parties need to cooperate with one other. Some of the questions in the survey questionnaire
addressed this issue. There is a need to better understand who the participants are and how they live their lives. The more one understands what the people value, the better one can design a product that respectfully, honestly portrays people, culture and place.

There were three significant themes that emerged from the third research question: (1) Honorific, (2) Protocol driven and (3) Interconnectivity. I want to state at the outset that these themes are essential components of traditional storytelling protocols. The first theme is 'honorific'. At cultural events, for example, protocol requires that storytellers give honor to the gods, the ancestors, the lands, and to significant people who are in the audience. Implications for web design, includes the importance of acknowledging the same. The second theme is 'protocol driven'. In Chuuk, there is a protocol to almost everything. For example, we do not simply awaken in the morning and start picking breadfruit. The day before we do what we call saach (looking for). We go to the tree to locate and identify what breadfruit are ready to pick and how many to harvest. So it is with our stories. We start with paapasono me paapasoto (drifting away and drifting back) and we end with much me esaopw taremeimei (it ends, it ends, it really ends). The third theme is 'interconnectivity'. As Chuukese, we accept that there is not one thing that stands on its own. We are family oriented. In fact, we don't have words for 'uncle', 'aunty', cousins, 'grandpa', and grandma. Our cousin males are called pwipwi (brothers) and the cousin females are called fefinei (sister). All our aunts and grandmothers are called mama (mother) and our uncles and grandfathers are called papa (father). We have a symbiotic relationship with the land and our people. There is need to grasp these interconnectivities when designing traditional narratives.
Empowering Chuukese Learning through Túútúnnap

We have to know ourselves first before we get to know the world.

(Education Matters, Plamena Pehlivanova, 2013)

Schools in the Micronesian Region, including Chuuk, have attempted to adopt American educational standards for its public schools, including American testing procedures and pedagogical practices. English language reading materials, workbooks and textbooks have been adopted whenever available, although shortages are manifest throughout the nation. Because English language levels are low among children and even among many Micronesian teachers, the American English language print materials are often inappropriate even when available.

Margarita Cholymay (2013) interviewed a broad cross-section of Chuukese educational stakeholders to identify seminal issues for educational “transformation” in Chuuk state. She concluded that the Americanization of Micronesian education contributes to a mismatch between “the school” and the mores, values, knowledge and life styles of the island community it is intended to serve. Among numerous failings noted was the fact that the adopted American textbooks and workbooks were devoid of the Chuukese language, stories and storytelling forms which give voice to the traditional wisdom of the community. In short, Chuukese public schools fail to capture the hearts, souls and imaginations of their constituents.

Dr. Cholymay traced the deterioration of Chuukese school-community relations from the 1960’s to the present day, contrasting the “bottom up” community-based practices of the 1960’s (including the American Peace Corps) with the top heavy
American “standards based” model of today. She decried the decline of community involvement in public education illustrated by escalating numbers of drop-outs; declining rates of parent volunteerism; the disappearance of teacher-parent associations; and parental disassociation from helping children with homework. She described contemporary public elementary schools in Chuuk as foreign places intended perhaps to prepare children for the Diaspora, but certainly not aimed at enriching and sustaining village wisdom.

In response to these findings, Dr. Cholymay called for an FSM summit of educational stakeholders, asking them to critically evaluate the state of public primary education. She joined a chorus of indigenous educators in both Aotearoa and Hawai’i Nei calling for a revival of indigenous pedagogy—positing among other things that

a. Chuukese primary schools should be self-managed by island councils;

b. Campuses should be constructed by the community using traditional open-air, thatch-roof designs and local materials;

c. Local teachers should be recruited and trained who are fluent in the vernacular language and familiar with local mores, values, and practices;

d. Pedagogical practice should include first language literacy anchored in traditional stories and storytelling practices, valuing character and moral education, service learning and hands-on outdoor environmental education; and

e. School-community partnerships should be nurtured to engage a broad spectrum of community members to mentor, apprentice and otherwise inspire children to value their heritage and island life.
My own dissertation is “situated” within this sweeping call for transformation. The digital storytelling framework which I have explored is responsive to Dr. Cholymay’s call to empower Chuukese communities to find their voices in the curriculum. Dr. Cholymay recommended specific steps to “indigenize” the Chuukese primary school curriculum, including the infusion of Chuukese language stories throughout the grades. My present study explored Internet-based strategies to gather and disseminate such story-based curricula. Cholymay writes:

Regional authorities should prioritize “giving voice” to Micronesian storytellers and “educators” to develop locally referenced, Chuukese language and bilingual curricula by promoting oral, visual and written communications; including print, radio, television and “new media” (Cholymay, 2012).

I realize that the Internet framework explored herein for collecting and disseminating indigenous stories will not resolve the educational crisis facing Chuuk state or the greater FSM. Internet access is nascent in the islands and strategies for technology integration are undeveloped and untested. As my own informants noted, however, the potential for Internet 2.0 to give voice to our communities, including creation of storytelling curricula could become transformational. As I envision it, Internet appliances (including smart phones, tablets and laptops) offer the potential to capture island voices—orally and visually within the natural contexts of island life.

In 2010 I returned to my home island of Udot in the Chuuk lagoon, accompanied by James Skouge a University of Hawai’i professor of media and technology. We visited my primary school alma mater to introduce a digital pen pal project, by“gifting” a
Macintosh laptop to the school and training the teachers and students to record vernacular songs and stories. The media which they produced was sent periodically to Hawai’i to share with the Chuukese diaspora community which, in turn, responded in kind. Because of Internet limitations on Udot, the media was mailed via the postal service using flash drives in padded envelopes. This experiment in digital storytelling was inspirational both to me and to professor Skouge, as we witnessed first hand the enthusiasm of both my home and diaspora communities to embrace technologies for voice. For elaboration on digital storytelling techniques appropriate to Pacific islands, the reader is referred to Dr. Skouge’s publications (Cholymay, 2013; Skouge, 2007b, 2007c, 2004)

**Importance of Storytelling for Chuukese Moral and Character Education**

Particular mention should be given to the importance of “character” or “moral” education within traditional Chuukese societies. This social aspect of education is perhaps more important to the Chuukese people than the development of knowledge and skills. Cholymay (2013) wrote:

I was determined to explore a “values base” for Chuukese education; respecting the fact that we Chuukese are preeminently invested in what might be called “character education.” For us, character is as important as “knowledge” and “skill.” “Character” expresses itself in “How we carry ourselves”; “How we worship and express appreciation”; “How we represent our families and our names (including the ancestors)”; “How we care for one another—including the people, the land, the sea and all living things therein.” In short, how we show respect. “Character” is something that is measured in community (not on standardized tests), but important
to us and the education of our children. If there has been one singular mismatch between so-called “western education” and the Chuukese way, it hinges on this seeming division: Character & Values on the one hand vs. Knowledge & Skills on the other: “How we should live” versus “What we can do.”

In the Chuukese culture, moral lessons and character development are taught both “in situ” through modeling; and via storytelling using carefully crafted parables. Parables are short tales employing simple narratives that introduce a character who faces a moral dilemma. Often, a bad decision is made followed by an unexpected consequence. Parables employ concrete narratives which are easy to understand in order to express abstract values and principles (Gowler, 2000). They may include chants, songs, dances and role plays alongside the voice narration. Perhaps one reason the Christian Bible was so readily embraced by the Chuukese people was because of the parables as told by Jesus in the Gospels.

Parables are unique storytelling forms that may readily lend themselves to interactive digital storytelling in which settings, characters and problems are introduced and then “paused” to provide opportunities for audience engagement.

The Unique Place of Hawaii as a Crossroad for Culture and Technology

The present study was conducted among the Chuukese diaspora community in Hawai’i. My wife, children and much of my extended family are members of that diaspora community. We have elected to live in the United States for reasons of health, education and employment. It is appropriate that this research was conducted here in the
United States, as this is the wellspring of the Internet revolution; alongside the fact that many of our traditional leaders and teachers now live here.

What makes our situation heartening is the fact that as the Internet becomes ubiquitous throughout the Pacific region, much of the isolation associated with physical separation disappears. Our community both here in Hawai‘i and at home in Chuuk becomes connected, illustrated by our commitment to acquire Internet appliances and pay for Internet connections to utilize SKYPE and other telecommunication forms.

Hawai‘i is in a unique global position to promote digital storytelling among Pacific islanders. While the reach of the Internet expands (becoming cheaper and faster); so does the social synergy for change. The diaspora population includes (a) large numbers of village elders who have come to Hawaii for medical treatment; and (b) increasing numbers of Micronesian youth attending public schools, gaining training and access to the new media.

Given this mix, we have newfound opportunities to explore, develop and disseminate digital storytelling forms. As I reported in this dissertation: although these forms are new to us, they are exciting and accessible to both young and old alike.

Cholymay (personal communication, March 7, 2013) described her own experiences recording digital stories:

On various occasions, we sat at a dining room table in a quiet setting for 3-hour uninterrupted sessions, with the iPad resting on the table between us. We would agree upon a topic (e.g., fishing with my father; doing homework by lantern light; housekeeping and cooking with my mother). Then, the iPad camera would “roll” and I told the story in
Chuukese language—as if I were telling it to my own children. When finished, I replayed it—reliving the memories; gathering myself for a story to come. Stories begot stories; one story leads to another.

After each session the iPad went home with me. At home, I reviewed the stories many times, even before falling asleep, captivated by my voice and vision. This was the first time in my life that I privately savored my life history in media form. I shared the recordings with my family, wanting my children to learn of my life. I prepared my stories for the next interview session, visualizing and rehearsing events shrouded in time, including loved ones now gone. I grew into the process.

Limitations

Finding Mr. Chuukese Digital Storyteller

Although the participants in this research are all Chuukese with immense technological background and higher interest in Chuukese storytelling, finding 'one' that utilizes web technology to tell stories was impossible. Some of the elders are excellent storytellers but they have never used the web. Two of the young participants are good with technology but they lack the interest in culturally responsive materials. This made it difficult for me to find people who could give me feedback on the technical aspects of the study and at the same time provide me with rich data in respect to storytelling.

Losing the Essence of Language

Knowing how to speak in Chuukese and English languages does not make one a translator of the languages. Having almost every aspect of this research conducted in my native language and then reporting the findings in English was difficult. I even
questioned my authority in translating my own language. I felt that many of the high words in the Chuukese language were lost in my translation. I had to finally give in and redo my entire data analysis in the true nature of its language. Doing this allowed me to see significant themes emerge from the data analysis. Some of these themes were missed in the English translation.

_E Pee Eew Ren Ruuw (Two is better than one)_

One voice cannot speak for the entirety of Chuuk. Although 30 participants was a relatively large number, I still feel that others should have been included. Having more people explore the site and give feedback would put the website on a higher ground.

**Recommendations**

Based on the findings of this study and the experience of conducting this study, I would like to make the following recommendations:

1. **Ngeni Chuuk mine an Chuuk (Give Chuuk what belong to Chuuk)**

   Preserving the history, culture, tradition, and language of Chuuk is everyone’s responsibility. As sons and daughters of Mother Chuuk, we need to give to Chuuk the ‘Chuuk’ in ourselves. It should never be our intention to change Chuuk but rather to create digital environments that serve today's purpose while keeping intact the 'Chuuk' created by our ancestors.

2. **Tétén Núú Taam (The Climbing of a Tall Coconut)**

   There are significant cultural values that we need to embrace especially when designing materials that purport to represent a group of people or a culture. We have to recognize that it is a long challenging road ahead. Like the proverb,
“Tétén núú taam”, we have to take the time to carefully process what we are designing to ensure that it respectfully represents the people.

3. **Stories are bigger than Us**

   People change; stories remain. We are small parts of the great story.

   Stories are central to our lives and our environments. They make us who we are.

   We do not simply teach stories to our children. In the storytelling we shape their character and soul.

4. **Iik me Ochan, Aramas me Foun (Fish belongs to certain reefs, people belong to certain Stories)**

   Having access to information does not necessarily give us the right to publish it. As researchers and designers, we need to respect the boundaries of good reason and respect. We know the ubiquitous reach of the Internet; unlike many of the cultural teachers whose stories and wisdom we may be documenting.

   May we share only what is permitted and appropriate.

5. **Making the Digital Chuuk**

   With the integration of technology, putting Chuuk on the global map can be as easy as hitting the enter key on a keyboard. Things that we don't normally share are most likely to be seen on the Internet. Our discussions are no longer limited to the audience we have in our circles but, it also includes those on the global level. May we behave ethically in our effort to make the 'Digital Chuuk'. May *suufen* (respect) be the guiding principle in our digital lives.
Conclusion

In the present study, I explored design considerations using web 2.0 for collaborative, indigenous storytelling. Such digital storytelling is part of an ongoing transformation in communication technologies. In the foreseeable future we can expect to see increasing speed and capacity in telecommunications, 3-D gaming, and ubiquitous multimedia production and dissemination. We can also expect wide dissemination of inexpensive digital tools for media production and internet access extending across the Pacific region, including islands which heretofore have been “off the grid.”

In order to realize the transformation of communication imagined in this dissertation, we must teach media literacy to our children—within the context of cultural preservation. Indigenous children and youth living in outside Chuuk must be encouraged to honor their elders by using digital tools to document, preserve and celebrate stories and storytellers.

Results from this research indicated that there is a great need and community support to revive, document, preserve, and share Chuukese storytelling. It also recognized the challenges that accompany the revitalization of traditional storytelling in today's digital world. Creating an alternative venue whereby Chuukese stories can be sustained, documented, and shared should become a priority. Using a design-based research approach is recommended due to its ability to provide grounds that bring together both the designer and the indigenous people of Chuuk. In design-based research, there can be multiple steps of revision and redesign, depending on the changes proposed by the concerned parties.
It is true that technology can never replace humanity and its living history. No matter how innovative technology becomes, it will always lack something of the humanistic sense that connects people in face-to-face community. Its mind thrilling to imagine, however, how to transform 'Chuukese Stories' into digital forms while maintaining integrity and traditional value. Perhaps in our next query, we should explore the possibilities of making Chuukese storytelling as engaging as video games.
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January 31, 2014

TO: LJ Rayphand  
Principal Investigator  
Educational Technology

FROM: Denise A. Lin-DeShetler, MPH, MA  
Director

SUBJECT: CHS #21865: “Túttûnnapen Chunk: Retelling Chuukese Stories in the Digital Age”

This letter is your record of the Human Studies Program approval of this study as exempt.

On January 31, 2014, the University of Hawai‘i (UH) Human Studies Program approved this study as exempt from federal regulations pertaining to the protection of human research participants. The authority for the exemption applicable to your study is documented in the Code of Federal Regulations at 45CFR 46.101(b)(Exempt Category 2).

Exempt studies are subject to the ethical principles articulated in The Belmont Report, found at http://www.hawaii.edu/irb/html/manual/appendices/A/belmont.html.

Exempt studies do not require regular continuing review by the Human Studies Program. However, if you propose to modify your study, you must receive approval from the Human Studies Program prior to implementing any changes. You can submit your proposed changes via email at uhirb@hawaii.edu. (The subject line should read: Exempt Study Modification.) The Human Studies Program may review the exempt status at that time and request an application for approval as non-exempt research.

In order to protect the confidentiality of research participants, we encourage you to destroy private information which can be linked to the identities of individuals as soon as it is reasonable to do so. Signed consent forms, as applicable to your study, should be maintained for at least the duration of your project.

This approval does not expire. However, please notify the Human Studies Program when your study is complete. Upon notification, we will close our files pertaining to your study.

If you have any questions relating to the protection of human research participants, please contact the Human Studies Program at 956-5007 or uhirb@hawaii.edu. We wish you success in carrying out your research project.
APPENDIX 2. CALL FOR PARTICIPATION

RESEARCH PROJECT
TÚÚTTÚNNAPEN CHUUK
Retelling Chuukese Stories in the Digital Age

PRINCIPAL INVESTIGATOR AND RESEARCH PURPOSE:
My name is LJ Rayphand. I am a graduate student at the University of Hawaii at Manoa in the Department of Educational Technology. I am doing a research project as a requirement for earning my doctoral degree. The purpose of my project is to (1) investigate whether a design-based website is viable in documenting, preserving, and sharing Chuukese stories and (2) to examine what web technologies would influence Chuukese to continue contributing and protecting their stories.

CALLING FOR RESEARCH PARTICIPANTS
- Are you a native of Chuuk, Federated States of Micronesia, who has special interest in Chuukese stories, culture, tradition, history, and in Chuukese language?

- Do you enjoy surfing the Internet? If so, I want to talk with you!

Who? You Can Participate If You:
- Are between 18-90 years old.
- Are a Chuukese that can speak, read, and write in the native language.
- Have an interest in documenting, preserving, and promoting Chuukese Stories.
- Have some knowledge of the Internet.

Where & When?
- Survey in Honolulu February to March 2014.
- You can choose the day, time, and place.
- Survey will take 45 to 60 minutes.

Want More Information?
- You will get a $20.00 Longs Drugs Gift Card for your time.
- You will explore the Túúttúnnapen Chuuk site before filling out the survey.
- Any questions or concerns, please contact principal investigator.

FOR MORE INFORMATION, PLEASE CONTACT
LJ Rayphand, Principal Investigator
1028 Kalo Place, Apt. 502, Honolulu, Hawaii, 96826
E-mail: rayphand@hawaii.edu Phone: 808-688-4403

This research has been reviewed and approved by the University of Hawaii's Human Studies Program (UH HSP) on February 05, 2014. The CHS Project Number is: 21865.
APPENDIX 3. SURVEY PARTICIPANT CONSENT

University of Hawaii at Manoa
College of Education, Department of Educational Technology

Research Project:
Tūtūtūnapen Chuuk: Retelling Chuukese Stories in the Digital Age

SURVEY PARTICIPANT CONSENT

My name is LJ Rayphand. I am a graduate student at the University of Hawaii at Manoa in the Department of Educational Technology. I am doing a research project as a requirement for earning my doctoral degree. The purpose of my project is to (1) investigate whether a design-based website is viable in documenting, preserving, and sharing Chuukese stories and (2) to examine what web technologies would influence Chuukese to continue contributing and protecting their stories. I am asking you to participate in this research because you may be: (1) Chuukese, able to read, write, and speak the language, (2) interested in Chuuk’s histories, culture, language, storytelling, arts, or music, or (3) have technical skills or interest in web technology.

Activities and Time Commitment:
If you participate in this project, we will meet once and you will be asked to go through the Tūtūtūnapen Chuuk website and fill out a survey that ask questions about possible ways to improve the design of the site. We will meet at a location and a time convenient for you. It will take you 45 to 60 minutes to fill out the survey. You will be one of 15 to 20 other participants whom I will survey for this study.

Benefits and Risks: There will be no direct benefit to you for participating in this interview. The results of this project may help improve the design of websites that honor and respect traditional narratives and cultural materials to benefit future Chuukese or scholars who are interested to learn about Chuuk’s history, culture, language, and stories. I believe there is little risk to you in participating in this research project. You may become uncomfortable filling out the survey. If you do become stressed or uncomfortable, you can skip the question or take a break. You can also stop filling out the survey or you can withdraw from the project altogether at any time.

Privacy and Confidentiality: I will keep all information in a safe place. Only my research committee at the University of Hawaii at Manoa and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawaii Human Studies Program has the right to review any research that is conducted at or from the university including this research. When I report the results of my research project, I will not use your name. I will not use any other personal identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

Voluntary Participation: Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss to you. Your choice to participate or not to participate in this study will not affect your rights to visit the Tūtūtūnapen Chuuk website.
You will receive a $20.00 Longs Drugs gift card for your time and effort in participating in this research project.

**Questions:** If you have any questions about this study, please call me at (808) 688-4403 or email rayphand@hawaii.edu. You may also contact my adviser, Dr. Ellen Hoffman, at phone # (808) 956-7671 or at email address ehoffman@hawaii.edu. If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at (808) 956-5007 or uhirb@hawaii.edu.

If you agree to participate in this project, please sign and date this signature page and return it to:

LJ Rayphand  
1026 Kalo Place, Apt. 502,  
Honolulu, HI 96826  
Email: rayphand@hawaii.edu  
Phone: 808-688-4403

___________________________

**Signature**

I have read and understand the information provided to me about being in the research project, *Tidationonep Chuuk: Retelling Chuukese Stories in the Digital Age*.

My signature below indicates that I agree to participate in this research project.

Printed Your Full Name: ________________________________

Signature: ___________________________ Date: ________________

You will be given a copy of this consent form for your records.
APPENDIX 4. INTERVIEW PARTICIPANT CONSENT

University of Hawaii at Manoa  
College of Education, Department of Educational Technology

Research Project:  
Tūtūtūmagen Chuuk: Retelling Chuukese Stories in the Digital Age

INTERVIEW PARTICIPANT CONSENT

My name is LJ Rayphand. I am a graduate student at the University of Hawaii at Manoa in the Department of Educational Technology. I am doing a research project as a requirement for earning my doctoral degree. The purpose of my project is to (1) investigate whether a design-based website is viable in documenting, preserving, and sharing Chuukese stories and (2) to examine what web technologies would influence Chuukese to continue contributing and protecting their stories. I am asking you to participate in this research because you may be: (1) Chuukese, able to read, write, and speak the language, (2) interested in Chuuk’s histories, culture, language, storytelling, arts, or music, or (3) have technical skills or interest in web technology.

Activities and Time Commitment:
If you participate in this project, we will meet twice: (1) for a one-on-one interview and (2) to go through the interview checklist (after all transcriptions are completed and returned to interviewing participants) at a location and time convenient for you. Only you and I will be present during these interviews.

One-on-One Interview:
The one-on-one interview will consist of 6 open-ended questions inquiring about the influence of technology on the Chuukese people and culture, attitudes toward web technology, and essential traditional values to incorporate in web designing. It will take 60 to 90 minutes.

Interview Checklist:
The interview checklist will consist of reading through all the transcriptions and confirming your responses to the questions during the one-on-one interview session. You will be given opportunities to delete or add more information to your responses. There might be follow-up questions to clarify some of your statements if they are unclear. It will take 30 to 45 minutes.

If you agree, I hope to audio-record the interviews so that I can later transcribe the interview and analyze the responses. All audio-recordings will be destroyed upon the completion of the transcriptions. You will be one of five participants whom I will interview for this study.

Please check below to indicate whether you are willing to have the interview audio-recorded.

☐ Yes, I want the interview to be audio-recorded.
☐ No, I don’t want the interview to be audio-recorded.

Benefits and Risks: There will be no direct benefit to you for participating in this interview. The results of this project may help improve the design of websites that honor and respect traditional narratives and cultural materials to benefit future Chuukese or scholars who are interested to
learn about Chunuk’s history, culture, language, and stories. I believe there is little risk to you in participating in this research project. You may become uncomfortable answering any of the interview questions or discussing topics with me during the interview. If you do become stressed or uncomfortable, you can skip the question or take a break. You can also stop the interview or you can withdraw from the project altogether at any time.

Privacy and Confidentiality: I will keep all information in a safe place. Only my research committee at the University of Hawaii at Manoa and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawaii Human Studies Program has the right to review any research that is conducted at or from the university including this research. When I report the results of my research project, I will not use your name. I will not use any other personal identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

Voluntary Participation: Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss to you. Your choice to participate or not to participate in this study will not affect your rights to visit the 'Tūtūnnapen Chunuk' website.

You will receive a $30.00 Longs Drugs gift card for your time and effort in participating in this research project.

Questions: If you have any questions about this study, please call me at (808) 688-4403 or email rayphand@hawaii.edu. You may also contact my adviser, Dr. Ellen Hoffman, at phone # (808) 956-7671 or at email address ehoffman@hawaii.edu. If you have questions about your rights as a research participant, you may contact the UH Human Studies Program at (808) 956-5007 or uhhrb@hawaii.edu.

If you agree to participate in this project, please sign and date this signature page and return it to: Lj Rayphand at this address: 1026 Kalo Place, Apt. 502, Honolulu, HI 96826, e-mail address: rayphand@hawaii.edu, and phone number: 808-688-4403

Signature
I have read and understand the information provided to me about being in the research project, 'Tūtūnnapen Chunuk: Retelling Chunukase Stories in the Digital Age.'

My signature below indicates that I agree to participate in this research project.

Printed Your Full Name: ________________________________

Signature: ________________________________ Date: __________________________

You will be given a copy of this consent form for your records.
APPENDIX 5. SURVEY QUESTIONNAIRE

PARTICIPANT SURVEY

PART I: DEMOGRAPHIC

Direction: Read each question carefully and darken your best answer or write it in the blank boxes provided below each question.

1. How old are you?

2. What is your gender?
   ○ Male
   ○ Female

3. What is your clan?
   

4. What is the name of your island?

5. What is the name of your village?

6. What is the highest grade you completed?
   ○ Some Elementary
   ○ Elementary
   ○ Some High School
   ○ High School
   ○ Some College
   ○ AAS/AS Degree
   ○ Bachelor’s Degree
   ○ Master Degree
   ○ Doctorate Degree

7. What is your current occupation?

8. Are you able to do any of the following? Check all that apply to you.
   ○ Understand Chuukese
   ○ Speak Chuukese
   ○ Read Chuukese
   ○ Write Chuukese

9. What is the primary language you speak at home?
   ○ Chuukese
   ○ English

10. What are the languages spoken at home?
    ○ Chuukese
    ○ English
    ○ Pohnpeian
    ○ Yapese
    ○ Others:

11. How long have you been residing outside of Chuuk? (How many years or months?)

12. When was the last you visited Chuuk?

PART II: CHUUKES CULTURE

Direction: Read each statement carefully and darken your best answer. The rating scale is 5 for strongly agree (positive is highest) to 1 for strongly disagree (negative is lowest).
1. The Chuukese culture is very important to me.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

2. I identify myself as a Chuukese.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

3. I am very proud of being Chuukese.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

4. I always like to display the Chuukese culture in the way I present myself to others.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

5. I always appreciate when Chuukese culture and traditions are performed at important events.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

6. I enjoy watching videos/photos about family, friends, and celebrations taken in Chuuk.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

7. I enjoy listening to Chuukese music or singing Chuukese song.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

8. The history of Chuuk is an essential part of my life.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

9. I always appreciate learning/listening to Chuukese historical telling.
   - Strongly Disagree □ □ □ □ □ Strongly Agree

10. Stories (Tutùlman) are an important part of the Chuukese culture.
    - Strongly Disagree □ □ □ □ □ Strongly Agree

11. I know a few Chuukese stories.
    - Strongly Disagree □ □ □ □ □ Strongly Agree

12. I am willing to share with others some of the stories I know.
    - Strongly Disagree □ □ □ □ □ Strongly Agree

13. I always enjoy reading materials that are written about Chuuk and the Chuukese people.
    - Strongly Disagree □ □ □ □ □ Strongly Agree

14. I would enjoy reading more materials if they are written in Chuukese.
    - Strongly Disagree □ □ □ □ □ Strongly Agree

15. I would be very interested to read Chuukese stories if they are published on the Internet.
    - Strongly Disagree □ □ □ □ □ Strongly Agree
16. I believe it is important to start writing and publishing Chuukese materials on the Internet.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Strongly Disagree  o  o  o  o  o  Strongly Agree

17. I would be very interested to read Chuukese materials if they are published on the Internet.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Strongly Disagree  o  o  o  o  o  Strongly Agree

18. It is important to write Chuukese materials in the Chuukese and publish them on the Internet.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Strongly Disagree  o  o  o  o  o  Strongly Agree

19. I am willing to contribute Chuukese stories to any online preservation and archival efforts.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Strongly Disagree  o  o  o  o  o  Strongly Agree

20. It critical that we pass on Chuukese stories to our younger generation.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Strongly Disagree  o  o  o  o  o  Strongly Agree

PART III: TECHNOLOGY

Direction: Read each question carefully and darken your best answer or write it in the blank boxes provided below each question.

1. Have you used or owned any of the following technology? (Can be more than one answer).
   - Radio Receiver
   - TV/Video/DVD
   - Still/video Camera
   - PC Tablet/Ipad
   - Tape/CD Player
   - MP3 Player/Ipad
   - Computer
   - iPhone/S. Phone

2. Do you use any of these technologies to record or document Chuukese culture or materials?
   - Yes  o  No

3. Do you use the Internet?
   - Yes  o  No

4. If yes, how long do you use the Internet on a daily basis?
   - Less than an hour a day  o  3-5 hours a day  o  9-10 hours a day
   - 1-2 hours a day  o  6-8 hours a day  o  More than 10 hours a day

5. What do you use the Internet for? Check any that applies to you.
   - E-mail  o  Blogging/Forum  o  School
   - Research/News  o  Social Media  o  Connect with friends/families
   - Video/Photo/Music  o  Work

6. Do you think that it is important to use technology to document, preserve, share, and promote the following?

<table>
<thead>
<tr>
<th>Aspects of Chuuk</th>
<th>Not Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>a. Chuukese History</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>b. Chuukese Culture</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>c. Chuukese Tradition</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>d. Chuukese Language</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>e. Chuukese Art/Music</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
f. Chuukese Stories

7. Do you think we should integrate technology when telling and sharing Chuukese stories?
   ○ Yes  ○ No

8. Do you think that it is important to design website for Chuukese stories?
   ○ Yes  ○ No
   Please explain your answer:

9. How important is it to tell and share Chuukese stories to Chuukese living outside of Chuuk?
   Not Important  1  2  3  4  5  Very Important

10. How important is it to tell and share Chuukese stories to Non-Chuukese people?
   Not Important  1  2  3  4  5  Very Important

PART IV: TÚTTÚNNAPEN CHUUK WEBSITE

Direction: Read each question carefully and darken your best answer or write it in the blank boxes provided below each question.

<table>
<thead>
<tr>
<th>Accessibility</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The website loads quickly.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>2. All multimedia are viewable and quick to load</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>3. All the links are accessible and free of errors.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>4. Site is viewable in different browsers.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>5. Site is viewable in different operating system.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>6. It is available for people with disabilities.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>7. It is easily understood by people with various level of education.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>8. Texts are provided in place to convey essential information that is featured within images?</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>9. Add any comments or suggestions you have in term of accessibility of the website.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accuracy and Validity</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. All information is reliable and free of errors.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>2. The website is free of spelling, grammar, and punctuation errors</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>3. Homepage covers the validity of the site.</td>
<td>○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○</td>
</tr>
</tbody>
</table>
4. Contents can be verified in other sources

5. Editor or author information is provided for validity.

6. Add any comments or suggestions you have in terms of accuracy and validity of the website.

<table>
<thead>
<tr>
<th>Design</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The site's design is aesthetically appealing.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>2. There is an overall-integration of design throughout the website.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>3. There is an appropriate use of space, layer, tables, boarders, dividers, and background.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>4. The page design is easy to understand.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>5. The site uses appropriate color choices.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>6. Font sizes are easier to read and distinguish</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>7. The design is appropriate for the target audience.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>8. Design allows easier navigation within the site.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>9. There is consistency among all internal pages.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>10. Having a site map helps guiding through the pages.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>11. Organization makes layout less overwhelming.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>12. There is a good balance of text and image.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>13. Add any comments or suggestions you have in terms of the design and layout of the site.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Content</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The purpose and scope of the site is clear.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>2. The content of the site is easy to comprehend.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>3. The stories on the site offer some deep insights.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>4. The information is very useful to me.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>5. The information provided is very important.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>6. The website is unique.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>7. It is easily distinguishable from other similar sites.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
<tr>
<td>8. Content of the site cannot be found on other websites.</td>
<td>○ ○ ○ ○ ○ ○</td>
<td>○ ○ ○ ○ ○ ○</td>
</tr>
</tbody>
</table>
9. Fonts readable and resizable

10. The site contains elements that encourage future visitations (i.e., blog, forum, or comment page)

11. Add any comments or suggestions you have in terms of the content of the site.

**PART V: SHORT ANSWERS**

1. What aspect of the site is most valuable to you? Explain your answer.

2. What part of the website do you like the least? Explain your answer.

3. Please list your suggestion on how to improve the website.
INTERVIEW QUESTIONS

RQ (1): How does the use of technology influence Chuukese to document, share and preserve their stories?

Guiding Questions:
In the past, many individual have been using technology to document, preserve, and share many aspects of Chuuk’s history, culture, tradition, music, dances, and storytelling.

1. What do you see as the significant roles of technology in the effort of revitalizing, documenting, preserving, and promoting storytelling?

2. Do you anticipate that more Chuukese people would appreciate storytelling when that created and shared with technology?

RQ (2): What are some attitudes that Chuukese have toward the use of web technology as a means to document, preserve, and share their stories?

Guiding Questions:
In today’s modern world, people frequently utilize web technology to document, preserve, share, and promote information. Others also use web technology to document events, collaborate on projects, engage in social groups, do business, access entertainments, etc. Many others use it to access important information and participate in various learning activities.

1. How do you feel about the impact of web technology in its role in documenting, sharing, and preserving our stories? What concerns do you have?

2. What are the advantages and disadvantages in the transformation of stories from traditional environment onto the World Wide Web (WWW)?
RQ (3): What are some important values that should be considered when designing a traditional narrative site?

Guiding Questions:
Changes happen all around the world every single minute. Many of these are obviously evident in bigger nations. In some places, it is difficult to tell what is native or indigenous to the local environment due to these rapid changes. Sometimes, it is hard to control change either because of political reasons, natural causes, economical changes, etc. Today, many of these changes are no longer strange in the Pacific Islands, including the islands of Chuuk. Advance technologies such as computers, mobile devices, wireless communication, web technology, and social media are now integrated into the traditional ways of living even in the remote areas where modern infrastructures are not yet seen. For instance, on the island of Mocha, people can access the internet to check e-mails, read latest news, search for information, watch video, or access social media using a satellite dish that connect them to the Internet. Ever since the mid-1990s, many outside scholars, tourists, agencies, businesses, schools, and government offices have made websites that portrays Chuukese people and various aspects of Chuuk's history, culture, tradition, language, and environment, especially the remains of Japanese and American World War II airplanes, ships, and submarines that are buried at the bottom the Chuuk Lagoon. Like many of these websites, the ‘Tuituichapen Chuuk’ website hopes to respect and honor the Chuukese people and some aspect of their culture, particularly their narrative tradition or storytelling culture.

1. Should important cultural practices in regards to storytelling be incorporated in the design of any narrative site? What would they be?

2. What designing elements that should be integrated on websites that is built for storytelling?
The text is structured as follows:

### APPENDIX 7. INTERVIEW CHECKLIST

**University of Hawai‘i at Mānoa**  
**College of Education, Department of Educational Technology**

**Research Project:**  
*Tātūtīnapen Chuuk: Retelling Chuukese Stories in the Digital Age*

#### INTERVIEW CHECKLIST

**Response to Research Question 1:**  
After reading the questions below, check the box indicates your best answer.

**RQ (1): How does the use of technology influence Chuukese to document, share and preserve their stories?**

**Guiding Questions:**

1. What do you see as the significant roles of technology in the effort of revitalizing, documenting, preserving, and promoting storytelling?

2. Do you anticipate that more Chuukese people would appreciate storytelling when that are created and shared with technology?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Do you agree with the statements you made in response to Research Question 1 (RQ 1)?</strong></td>
<td></td>
</tr>
<tr>
<td>□ YES, I agree.</td>
<td>□ NO, I disagree.</td>
</tr>
</tbody>
</table>

If you have other comments, you may add them here.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2. Do you agree with the statements you made in response to (RQ 1) Guiding Question 1?</strong></td>
<td></td>
</tr>
<tr>
<td>□ YES, I agree.</td>
<td>□ NO, I disagree.</td>
</tr>
</tbody>
</table>

If you have other comments, you may add them here.
3. Do you agree with the statements you made in response to (RQ 1) Guiding Question 2?

☐ YES, I agree.  ☐ NO, I disagree.

If you have other comments, you may add them here.

Confirming Themes Emerged from Research Question 2:
After coding the data from your answers to Research Question 1 and the 2 Guiding Questions, the following themes emerged. Read through the statements below and rate them by putting an 'X' in the box that best indicates your response. SD= Strongly Disagree, D= Disagree, U=Unsure, A=Agree, and SA= Strongly Agree.

<table>
<thead>
<tr>
<th>EMERGED THEMES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Empowering</td>
<td>D U A SA</td>
</tr>
<tr>
<td>2. Revivifying</td>
<td>D U A SA</td>
</tr>
<tr>
<td>3. Transforming</td>
<td>D U A SA</td>
</tr>
<tr>
<td>4. Engaging</td>
<td>D U A SA</td>
</tr>
<tr>
<td>5. Preserving</td>
<td>D U A SA</td>
</tr>
</tbody>
</table>

Response to Research Question 2:
After reading the questions below, check the box that indicates your best answer.

RQ (2): What are some attitudes that Chuukese have toward the use of web technology as a means to document, preserve, and share their stories?

Guiding Questions:
1. How do you feel about the impact of web technology in its role in documenting, sharing, and preserving our stories? What concerns do you have?

2. What are the advantages and disadvantages in the transformation of stories from traditional environment onto the World Wide Web (WWW)?

1. Do you agree with the statements you made in response to Research Question 2 (RQ 2)?
2. Do you agree with the statements you made in response to (RQ 2) Guiding Question 1?

<table>
<thead>
<tr>
<th>□ YES, I agree.</th>
<th>□ NO, I disagree.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If you have other comments, you may add them here.</td>
<td></td>
</tr>
</tbody>
</table>

3. Do you agree with the statements you made in response to (RQ 2) Guiding Question 2?

<table>
<thead>
<tr>
<th>□ YES, I agree.</th>
<th>□ NO, I disagree.</th>
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<tbody>
<tr>
<td>If you have other comments, you may add them here.</td>
<td></td>
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</tbody>
</table>

**Confirming Themes:**
After coding the data from your answers to Research Question 2 and the 2 Guiding Questions, the following themes emerged. Read through the statements below and rate them by putting an "X" in the box that best indicates your response. SD=Strongly Disagree, D= Disagree, U=Unsure, A=Agree, and SA= Strongly Agree.
<table>
<thead>
<tr>
<th>EMERGED THEMES</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transfer of Control</td>
<td>D U A SA</td>
</tr>
<tr>
<td>2. Open Access</td>
<td></td>
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<tr>
<td>3. Intellectual Property</td>
<td></td>
</tr>
<tr>
<td>4. Community Participation</td>
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</table>

Response to Research Question 3:
After reading the questions below, check the box that indicates your best answer.

RQ (3): What are some important values that should be considered when designing a traditional narrative site?

Guiding Questions:
1. Should important cultural practices in regards to storytelling be incorporated in the design of any narrative site? What would they be?
2. What designing elements that should be integrated on websites that is built for storytelling?

1. Do you agree with the statements you made in response to Research Question 3 (RQ 3)?
   - YES, I agree.
   - NO, I disagree.
   If you have other comments, you may add them here.

2. Do you agree with the statements you made in response to (RQ 3) Guiding Question 1?
   - YES, I agree.
   - NO, I disagree.
   If you have other comments, you may add them here.
3. Do you agree with the statements you made in response to (RQ 3) Guiding Question 2?

☐ YES, I agree. ☐ NO, I disagree.

If you have other comments, you may add them here.

Confirming Themes:
After coding the data from your answers to Research Question 2 and the 2 Guiding Questions, the following themes emerged. Read through the statements below and rate them by putting an "X" in the box that best indicates your response. SD= Strongly Disagree, D= Disagree, U=Unsure, A=Agree, and SA= Strongly Agree.

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</thead>
<tbody>
<tr>
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<td>SD</td>
</tr>
<tr>
<td>1. Protocol Driven</td>
<td></td>
</tr>
<tr>
<td>2. Honorific</td>
<td></td>
</tr>
<tr>
<td>3. Interconnectivity</td>
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</table>
APPENDIX 8. SCREEN SHOTS OF PROTOTYPE
Manapen Porousen Chuuk

Fonuwen non Chuuk


Pwokilen eewi muunap mei rini ngeni United States of America, eewi wewen ko bich mei muuni eee muun democracy tai lekini. Weenens, pwewb bich mei ennokutes ach meaun fan eewi puingi aipieni aramasen fonu Chuuk. Ach eewi muunap non Chuuk mei neeim an termamoon eee neichi gowenor mei puali eemui neichi leitzen gowenor. Ach klee 40 municipalities mei nomu fan tumunuwen roouch kewe sameun fonu (mayor) mei puali neun eee deputy mayor.
Kapasen Ettirow me Eperuper

"Amwo cheenmonge ei epwe tongeni tuuttunnapei ekkis porousen fenuwach kewe me neniah. Kese mochen efiechuewi tufichin porous pwiw awen e i ren met epwe mwani von." 

Tirow nang, tirow, fona, traw mattaw–

Siwe sepawo ach eperuper me wo samatch kew kew popunupunun fenuwach kewe non Chuuk meiinin, samatch stalin meiinin, traw kewe niemiti, peipnet ata saile, fenuwach meiaeshe, fiti neuch semiti, cheechen fansupraach, ach tirow weni meiinin. Sia wata wachimulun ach tirow pwe amwo eperuper swati rigeri kich neitipen me amachinei maamutan ach siwan tongeni kapas ike apourous fitiru tuuttunnapei fenuwach kewe non Chuuk. Annapasen netiapach pwe met siwpe mabakwak ika apourous epe fenuwach fiti fenuwach fiti peal ekkis ekkioch ra nonmaw neikun fenuwach Chuuk ikesi. Kich mei natur pwe mei auheoa ach siwap chik iken pwe kich chon Chuuk nga siwe pwiw aweweti ika kichi ien cusan chon Chuuk. Ika nevotach, me met unwech. Mei auheoa siwpe siwe siwpeporous ach kiens newo, tuuttunnapei fenuwach, ach kewe choo, me ianw. Annapasen netiapach pwe met kich mei ekkis aweweteki me siwa osapwe emetek ika tingaw me non netiapen nga epwe fan fwa pue poputan ach angang tengen nee sopwewa ika awena ekkis porous. Amwo osapwe pwiw werwengawan ika tingawan me non netiwen chon ekkis fenuwa mina fenuwak, nonowm, mei kewe newo mei saufau porousar me non ach akkaporous. Meti wu wu kapasen Chuuk amen kan pikke fansueu ach ekkis apourous ekkis porousen ronu. Ekan era, "Kitasen naqito e naqito nga kinasen non wou mmoom." Meti pung pwiw ika maa a chommmor ien mei mekiin ze ekkis porous fix nga seni auheoa mei ach safukik sa iku nga fwi maa caswenen manuwach ikina. Ach ansean pwe amwo ekkis porous sia aachewekeni resap ochik ika kipiwtata sengen nga siwe fan sopwewo nee checcheerir pwe fan chommmor mei fweewenew taal iki keew ma caswenen me manuwach ikina.

Siwe sefikin uwankapen ach tirow akakawai wu keewe fenu me amas mei narn mei porousen non fitiru ekkis porous mei noro won e website. Ach ansean pwe mat en mei sviui epwe pwiw kapasen ageni met ekkis mei noro tec chew pwiw fenuwak sopwewo, achewekeni, me achewekeni ach ansi novk kewe semiti me amasen fenuwach ra.
Tuttunnapen Chuuk

Ikkei ekei fitachee tuuttunnap:

1. An Nemwes Torl Udot
2. Ekkupetin Utoras
3. Fuetin Plafe
4. Ozen Notuk Ewe Konik
5. Saaraw me Rokumw
6. Raasim Uman

A weer fitaw ekei tuuttunap kich me angei nee fitaw me nein fawwach ka wee Non Chuuk pwe poputan maeveen ak kase. Tuuttunnap mei tokken aucwa ak sipwes popweiwe nee alee nauw keewe ngi pop saa akkaewin ikkawa aramasen Chuuk mei nwmoflan won ekkawa fowo mei leorw mei nutun Chuuk.

Mangpu mei tefoo pwe fan fan sauw, reppwe toongi ar reppwe nee tefoor eka maa ektuuttunnap ika resaww fan chikken pwaal toongi siine. Napengi ekei alee tuuttunnap chon Chuuk mei kan weh naka emirit nei ika pwaal ekkok sohkw susorw eka ngeri kich ak sipwe ekkelvuk ika weeke noomwuch, fawwach, me eemita. Mei pwaal chommengi mei seis ak lei tuuttunnap mei ngi wee keewe meitoch mei lis ika noomwuch mei nanka.

Pikten ak keewe neowe asawp mei chon siwe maak, iwe napengi eemita mei warwa ika non wam aramasen fawwach, iwe eka seis non fawwach ka wee ika tuuttunnap. Ska pwaal toongi kae genni keewe mei maikswe iwa ak sipwe chok rongorong ngiwe mei ra aloreusa me tuuttunnapel. Amelita, pwe mei ekei aleechee non eneembach me noomwuch esapw melkafan. Sipwe ngiyeone mei tefoo tuuttunnap ika poputta nee maamakakwe mei chikken nusun tuuttunnapach mei
An Nemwes Tori Ewe Fonu Udot

Paapsioso Pasaposio, a nemwes emon samon me wek wek wek wek Yap. Ei samal a men fokken pwal rongonaw. Non ndokuku rongon ewe, ese fokken rintin in met mei tongerl for. Aramasen fonuan ewe raamen fokken osufonu fanban tongenaw me pwal an awoe kinairew won unsaan fonuan ewe.


Itten ran, eka sozonaif fonuan ewe ise a jinj solliko petewen mei ningeach me pokus fep. Fatan feraw tari a fokken iree solliko ira mei ningeach me pokus fep. Nenew onew se sonon mewi afei fokken nafnou ase ese chuyen pigiip mwair pias a it petewenin fonuan ewe. NON eew awin a edikodiketa pee epwe no tingorei sam keve me tanan pee epwe nis no teringes mwairin Chauk.

Serota eew seon, a chair ina ewe me saman fanitee met ewo ee edikdiis. Ei saman a men fokken auheani nongeewi ngingee, eke kotoe paoke pongwor met atoning ngerei pwe met pwal karai piru nongeewi amin pwal fokken rongorong amon. Me mewenam mewi, saman ee eese mechen ngeji pwe mei sintch pwe mei tongerl an epwe seurang wi Chauk. Itten ran, ewe ngewin mei fokken chok anin angang eewi taling an epwe noo teringes mwairin Chauk. Fatan feraw, ewe samon a fokken tingorei woonin nongeewi nongeewi nongeewi ewe. Lwe, a edikodiketa pee epwe noo muut ngerei met ewe an tiring. Meta wot ewe fonu me nen Chauk, 10 Udot, ai fonu ma faat se unsaan fonuan met keve seurang noo men fokken koum fengen kweee pwal seurang me won Udot. Reze mawamun ngea ase chok fokken soun awata fengeri won toring keve.

Non eew ran, ewe samon a fangettan an epwe nis muut ngerei nongeewi met ewe an tiring. Lwe, a wot boum nongeewi ase chokken noo ossewasef fanitee a kunai pwe met fokken ngewen nongeewi nongeewi ewe ngewi wyanin an ewe mechen noo taring mewi nemwes Chauk. E ferawaraa ewe epeten nongeewi nongeewi. Epeten ewe, eka chok kepikj soo a tongerl chok feraw won saat, ese mokutukulikelen. Ei saman a seos noo ewe pwe, meta tongerl toonaw won sollikapin fonuan non Chauk chimon chok ewe fonu ilan Udot. Ei saman amin ngewin fokken ooura ochuer nongeewi nongeewi met epwe fori me ian epwe pwerew ian epwe toon Chauk. Ewe saman a seos nongeewi epwe aan toning non namun Chauk ire epwe pweerew me etore oorein Chauk pwe esapaw kanol ngeri Udot.

Serota eew seon ewe Nemwes a amcorata an ewe sari. A angei ewe a kumari, nis a wawon epasan ewe me tiroy anan onwe. Ei wawon epasan ewe se aman hwe naa Nemwes Chauk. Mwain a emmwingam woo saman ewe me ian ewe, a wonei uunon pien fonuan Chauk. A angei ngon non an ewe kumari, mawon eepatan ewe ise iwe a chenkel negi naa pechen me nauvedok. Nupwaw an a ipuru non ewe saat, pechen ese mawam, iwe a paputsa nee fetean won ewe saat, fetean ngeri Chauk. Nemwesai fokken chokkenkiri met ouwortan mirim saman keve me ian. Meik kumachunkile ra amin ngei
Met en mei pwositi nee apasa?
05/04/2013
3 Comments

@Tweet 0 @Like 1

3 Comments

Met Omw Tuttunnapp?
05/04/2013
1 Comment

@Tweet 0 @Like 0

1 Comment

Met en mei tongeni epungu me won ekkei tuuttunnap?
05/04/2013
0 Comments

@Tweet 0 @Like 0

Add Comment

Met En Mei Tongeni Tuttunnapei:
Am pane nifikachu pa mei im omw ame mei ekkei tuuttunnap nge nga aps fa ror met aps mei tongeni kapachonong ika koping ma vor, iwe kise chomen mei anisi mei mei ike.

Ika mei fei pwa fikachu na mei mei mei tuuttunnap ngeni ike kica mei mei mei pwa mak.Default chon chikalan.

Met Mei Teeto Sem?
Aramis:

May 2013

Sokkun Tuttunnapp:
At

RSS Feed
Ren Kapaseis Me Met Sipwe Tongeni Annisuk Won

Name *
First: 
Last: 

Email *

Comment *

Submit
APPENDIX 9. SCREEN SHOTS OF WEBSITE

MESE MWAN

Kapasen Mese Mwan

"Túuttúnnap reew ach piisekin kaaít, ach piisekin kaaít fengen, me pwan ammen ach sipwe angel porúus, unuwon fen'iwach, nòòdòow chòò me neenin aramas. Aranas ca pwan tongoi siné éení me pwal weweti nòòdòow pokitén túuttúnnap."
ETTIROW

Tirow nang, tirow, fonu, tirow mattaw~

Spwe sopweno ach eperuper me won samach leve popunupunun fonawach kewe non ChuuK meiniin, samach afe fon meiniin, inach kewe niemint, papwei ale sufien, firdrach nvauche, fittouch semirit, cheechen fanuwach, ach tirow woni meiniin. Sia walla wachmuken ach tirow pwe ameo oupuw suuki ngeni kich niempem me amecherei niemintan ach spwe tongeni kapas ika aporousa fittu tuutunapaen fonawach kewe non ChuuK. Ammeineen netipach pwe met spwe makek fer ika aporousa spwe fanileni kich fonawach fittu ekkwe ekloch ra nomomi nukun fonawach ChuuK kienu. Kich re khi nuuw pwe mei amhoe ach ssiapwe chuK ienu pwe kich chon ChuuK nek ssiapwe pwe wesiili ika kich ion usun chon ChuuK, fani nevordtoch, me met woonch. Mei amhoea spwe sii nek porousen ach kewe nekew, tuutunapaen fonawach, ach kewe choo, me einang. Ammeineen netipach pwe met kich re ekwe wesiili me sii nek espay eemtriki ika lingaw me non niempem rige epesi fer fis pwe populukan ach angang fengen reer soopoeno ika awena ekki porous. Ammer esapw nekpor woe nevwangawien ika lingawen me non niempem chon ekkiwone fonu mine fonawen, nonmeusu, me ar kewe nekew met boudou porouser me non eki akkaporous. Mei woe woe amraneen ChuuK amen kan piken fansouni ach ekki aporousa ekki porousen norme. Ekan era, "Kiinaen rukun er mont egi kinaien noo eekemo." Mei puun pwe ika mwo a chomong er me metrii an ekkiw eekum rige ssiapw meti nechir me ar osuferiin eki meti sis fis pwe masawen manawach kienu. Ach amraneen pwe ameek ekki porous sii awenferseng esapw ochuw ika kulepta songen naerle rige epesi fer sooepenon nee checheneriin pwe fan chomong met tofoton norme lek kich mei masawen me manaweni kienu.

Spwe senanu unuukenen ak tiirow akkweerni woe fonu me aramas mei norme prouxer non fittu ekki porous mei norme won e webiste. Ach amraneen pwe met en me sii nek epesi pwea kapach ngeni met ekki mei norme rik pwe spwe tongeni soopoeno, achomongono, me archeewen mei norme rik kewe semirit me aramasen fonawach ra norme tiirow are epesi soopoeno rige weevi ika pwe li ioni me prad tar ra nevoro me Ian.
Fénúwen non Chuuk


Pewitten ach eew musuap mei riri ngi United States of America, ki weewen kich mei muun eew musun democracy tiri ikoni. Weewen, gee kich mei emokusi ach muun fan eew puung me tipecin aramasen fonuweach Chuuk. Ach eew musuap non Chuuk mei nomr an tumunween emon touch governor mei pei emon touch lieuentant governor. Ach kewe 40 municipalites mei nomr fan tumunween touch kewe samuun fonu (mayors) mei pei noun eew deputy mayor.
TÚUTTÚNNAPEN CHUUK

TÚUTTÚNNAP

Fitäché Túuttúnnapen Chuuk

A woor fitis ekkel juuttunap kich mei angi seri fitis mo nene fonuwach keve non Chuuk pwe popoan maisen achi kae. Juuttunnap mei fokkun aucte a ekkwopet ake ait nouch kene nge peal akkawen etikere aranasen Chuuk mei nemeledeg torn en etikere fonu me kaeve me nukun Chuuk.

Menpe mei fulch pwe fan eew fan eew, repre longeri ar repre nemarana ekkwopet juuttunnap aka resapw fen chiwee peal longeni sine. Nappengeni ach juuttunnap chon Chuuk mei kan xor kapas emrit non ika peal ekkwop etokkun eurour ekan ngeni kich a ekkwop etikere aka wewet ni normoch, fonuwach, me eerenach. Mei peal chomming me nen ach kei juuttunnap mei nger weve keve metoch me fili ika nonomu non remach.

Pokten ach keve reso esapw ir chon sine maak, iee nappengeni eerenach me unaon ika nonomu aranasen fonuwach, iee e etes non fowchon porous ika juuttunnap. Ika peal longeri kae seri keve mei misokon ren achi ekkwop chok rongrorg ngeni met a ra porousa me juuttunnap. Amoda, pwe met ei mei aucte aiknon non eerenach mei normoch esapw nukukuno. Spree sopewet muu juuttunnap ika poputta noe maanamet whilei mei chiwee resun juuttunnapach mei chiwee longeni achem seri samach keve me inach epee epee normoch ren moi peal tour ngeni ion nouch repre upudl wache ekkir.

An Nemwes Tori Ewe Fonu Udot
Seni Akkenus Akenkus

An emon nengnin Yap ika nemaw tori Chuuk an epee setingas angasan. Nemaw i emon nengnin mei nesataam, nown emon samon peal emon sourong seri Yap. An tori Chuuk, le eckwop seran won saat.

Ekkupepin Uroras
Seni Silves Namowei

An eewi Nhimm kuupetai ariamases Uman mei non eewi Chuuk Uroras. A peal kuupetai einaengan non Uman tli wisan eewi mei eewi keve enang.

Fetanin Piafa
Seni Kosi Patrick

Porousen an Piafa setani seri Losape tori an a aketk ngeni orun Leikroch. Aweyen popun an woor wararen tra mei.

Osen Notuk Ewe Konik
Seni Akkenus Akenkus

Osen eewi eenui tani Notuk ewi konik a niife naanuno won Feuwee. Ei konik Notuk eewi ko lei noni eewi konik Fonston ia epee waaw Fanaa ura a ni seri me Feuwee.

Taak me Nilipwe
Seni Adelina Rayphand


Rasen Uman
Seni Knako Rayphand

Porousen an punwenn Soukoop eewi nifrapniw fefiten Soukoop eewi. Fefiten Soukoop eewi aa angur unusen

224
An Nemwes Tori Ewe Fonu Udot

Paapasa pnga. Pasapasa a nonowem emon samon me won ewe kewa tenan Yap. Ei samot a men fokikan pwal rongngai nion utukun rongngai ewe, eise fokikin rifefin mi mai tinggor fen. Aramasan fokukan eewa saani fokikin qutufufi fandem tenganjam me pwal an avekka liniwe mi wosan fowwasan eme. Wei won nogai ewe samon ewe emon nengi rian Hanwes. Ei nengi amon fokikin rifef iwe xalu fokikan sortho. Makakakulut ni mewuran mei nogai mai fokikan pwal zolotoko me won ewe fonu. Hanwes, amin nengi mai choi fokikan pwal omne utukudud ni rie amon fokikan ni baam. Tsamna ina epwe epwe unukun emgir me niuwe feete. Ewe melot e ngiini emen saami liwe, ariam fokikin sani an epwe tenlige unmee polewan mai tipacch pwal fokikan peletai. Riten naan, elam nolai fonuwe ake lea a uni suliol silebox mai nolongte mi doku.

Fetan fetan tori an a fokikan liwaa a okta iroi ma inengtek mi potus fandem an ewe nengi soum chox tevi Itali ran. Nion ewe samon a nonowem rie a fokikan rifefi an eewa chereem pitpit maawpi rie mi rie tekennef fowwasan ewe. Nion ewe puuti a okta iroi lepi okta soroj na naan le naan lepi okta maawpi soroj na naan lepi soro. Hanwes, amin nengi mai choi fokikan pwal omne utukudud ni rie amon fokikin ni baam. Tsamna ina epwe epwe unukun emgir me niuwe feete. Ewe melot e ngiini emen saami liwe, ariam fokikin sani an epwe tenlige unmee polewan mai tipacch pwal fokikan peletai. Riten naan, elam nolai fonuwe ake lea a uni suliol silebox mai nolongte mi doku.

Fetan fetan tori an a fokikan liwaa a okta iroi ma inengtek mi potus fandem an ewe nengi soum chox tevi Itali ran. Nion ewe samon a nonowem rie a fokikan rifefi an eewa chereem pitpit maawpi rie mi rie tekennef fowwasan ewe. Nion ewe puuti a okta iroi lepi okta soroj na naan le naan lepi okta maawpi soroj na naan lepi soro. Hanwes, amin nengi mai choi fokikan pwal omne utukudud ni rie amon fokikin ni baam. Tsamna ina epwe epwe unukun emgir me niuwe feete. Ewe melot e ngiini emen saami liwe, ariam fokikin sani an epwe tenlige unmee polewan mai tipacch pwal fokikan peletai. Riten naan, elam nolai fonuwe ake lea a uni suliol silebox mai nolongte mi doku.
POROUSACH

Kiich Ioon

Fiti ach suten, sipwe apasa ach tirow me kapongen ei fansoun chuutengen.

Itach, LJ Rayphand, kich seri ewe fenu Udot. Ach newo mai etto keeang ngeni fitaw fenu. Kich mei pwal newdo me mwirin chon ewe fonu Lekinoch ika Lukanoch me non fonuwach kewe non Mortlocks me pwal ewe fonu Uman, me non fonuwach kewe non Southern Nomwoneas.

Non ach pekin kaeo, sia men fokdu pwpawaiti nee kaakao ika pwaachenog erenich me ekkoch nonomwuch. Pwokiten ach pekin kaeo ee koon anongonong won ekki mechen ikonnai an epwe ofuchi ika pwal amacheni pekin kowo ei mine, sia pwal aucheeni ach sipwe wantong ekkoch ika pwal wawan ika ekkoch mei auchei ika pwal namoecho me non fonuch, erenich, urowoch, ika pwal nonomwuch.

Ikenai, kich mei fittii ach ese sukon, University of Hawai on Manoa, me won ewe fonu Oahu, non Hawaii. Ach pekin kaeo, iwe sia kaeo ngeni pekin Educational Technology me pwal angang ngeni Itache certificate no Pacific Islands Studies, Online Learning and Teaching, me pwal Disaster Management and Humanitarian Assistance.

Ren ekkoch kapas ei, ka tongeni maak ngeni kich won ach ena address: rayphand@hawaii.edu. Kinsei chapur.
Kapaseis

We’re an energetic, flexible, and open-minded team ready to work hard for our clients. If you’re interested in working with us, please send us a message!

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ktuuttunnapen@gmail.com

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Primary Address:
P.O. Box 1432, Weno, Chuuk, FM 96942

Name
Email
Subject
Message

Send
APPENDIX 10. SAMPLE OF STORY

Nemwes: The Disobedient Princess

The chief in Yap had a daughter Nemwes who was beautiful as a palm. Nemwes loved to collect fresh flowers, but there came a time when no more flowers grew. She heard that many beautiful flowers grew in the islands of Chuuk; and she asked her father if she could travel there. At first her father denied her request, but because she was his favorite, he finally gave his permission, warning her however to avoid certain islands.

Nemwes traveled to Chuuk collecting her flowers. She took a shortcut which brought her close to the island of Udot, one of the places expressly forbidden by her father. When the Udot people saw her approaching, they believed her to be a canoe. They informed their chief that a canoe was coming. The chief walked to the shore to discern the truth. “It is not a canoe,” he proclaimed. “It is a princess!” The chief instructed his men to await her arrival and bring her to his compound when she reached the shore. As she got closer, they saw that Nemwes was walking on the water, using her oils to give her such power.

Upon stepping onto the sand, the chief’s attendants invited her to follow for celebration and feasting. Breadfruit and crab were plentiful with many delicious recipes. There was great dancing, chanting and storytelling. Flowers of every variety were abundant. When the celebration ended, Nemwes prepared to return home to Yap, but when she stepped onto the reef she sank beneath the surface. Each time she tried, it was the same. Remembering her father’s admonition, Nemwes cried out “I am sorry, father. I should never have visited the isle of Udot.”

The Princess died on Udot. To this day the remains in her grave contain the seeds of flowers she brought from Yap. Nemwes should have obeyed her father.

-- Story retold by LJ Rayphand