



Teacher Technology Narratives: Native Hawaiian Views on Education and Change

D. Lilinoe Yong

Hau'ula Elementary School, Honolulu, Hawaii, USA

Ellen S. Hoffman

University of Hawai'i Mānoa, Honolulu, Hawaii, USA

Narrative inquiry is a method by which "silenced voices" may be heard. In this study, eight Native Hawaiian teachers share their experiences of the Hawaiian Language Immersion Program (HLIP), or Papahana Kaiapuni, within the Hawai'i public school system. The teachers describe change over time in HLIP with a focus on technology and their perceptions of how it has enhanced preservation of the Hawaiian language. By giving voice to their views on indigenous culture and teaching, the stories provide a rich and nuanced view of growth and school reform as framed by the teachers' own words. Themes of commitment to students and community, and a renewal of Hawaiian language and culture are central elements in each teacher's story. Technology is seen as a tool that can be adapted to meet the demands of the schools and community, but only when shaped by Hawaiian values and intentional human agency.

Keywords: Hawaiian Language, Immersion Schools, Native Hawaiian, Teaching, Technology, Narrative Research, Storytelling

Teacher technology narratives: Native Hawaiian views on education and change

The dynamic use of technology for education and community building among Hawaiian speakers has been a widely reported phenomenon. Multiple authors, both internal and external to the culture, have provided positive descriptions of tools and applications, thus inferring a pro-technology receptiveness in the Hawaiian approach to language expansion (Hartle-Schutte & Nae'ole-Wong, 1998; Warschauer, 1998).

A highlight in these studies was the successful growth and development of the Hawaiian Language Immersion Program (HLIP), the *Papahana Kaiapuni*, within the Hawaii Public Schools (HPS) as one of the focal points for language regeneration and technology use. However, most of the studies were done in the early years of the HLIP, without a follow-up to examine changes that might have occurred as technology has become more ubiquitous in society in general and as the immersion program has become a small but well established program within the Hawaii Public Schools.

This narrative case study was undertaken to investigate the possibilities technology has opened in sustaining the HLIP and in transmitting the Hawaiian language and culture to a new generation of digital learners as seen through the stories of its teachers and past students. The narratives recorded illustrate why exploring teacher attitudes and experiences can be an effective method for understanding change processes in schools (Clandinin, Pushor, & Orr, 2007) as well as challenging others to better understand issues in the renewal of Hawaiian culture.

Context and Background

Hawaiian Language Immersion Program: the Papahana Kaiapuni

After a century-long ban on teaching in Hawaiian, new laws in the mid-1980s made both English and Hawaiian the official languages of the state of Hawai'i. As noted by Ah-Nee Benham and Heck (1998), the nineteenth century policies limiting educational use of Hawaiian language had the effect of silencing native voices and diminishing Hawaiian cultural continuity in parallel with related policy outcomes on other indigenous groups within the U.S. By the 1980s, Hawaiian was only spoken natively by a small number of elders who were slowly decreasing (Yamauchi, Ceppi, & Lau-Smith, 1999).

With new laws in effect and pushed by community activists seeking to revive Hawaiian, the first Hawaiian language immersion "schools within a school" were established by the Hawaii Department of Education in 1986 (Ah Nee-Benham & Heck, 1998; Wilson & Kamanā, 2006; Yamauchi et al., 1999). As documented by multiple writers, establishing the HLIP required extensive community lobbying to get the program started and continuous support to sustain what remains a small program within the larger and more traditional public school system (Kawai'ae'a, Housman, & Alencastre, 2007; Slaughter & Watson-Gegeo, 1988).

The program has grown from two sites in 1987 to nineteen sites with a student population of about 1,500 and approximately 80 teachers on five islands. Today, HLIP students in grades K-12 are taught the traditional academic curriculum of the public schools entirely through the medium of the Hawaiian language rather than in English. As noted in the HLIP web site, Hawaiian "is the vehicle for content instruction not the subject of instruction." Starting in grade five, HLIP students receive one hour of English instruction daily. However, the pedagogical approach of the HLIP schools is distinctive from other public schools because of its emphasis on Hawaiian culture and values, often referred to as Hawaiian culture-based education (Kana'iaupuni & Kawai'ae'a, 2008).

Technology and Culture in School Change

General change theory (Fullan, 2006; Hall, 2010; Rogers, 2003) provided the broad conceptual framework for this narrative inquiry investigating how teachers' attitudes towards technology grew and changed. In addition, cultural frameworks have shaped this study, particularly themes from culture-based education (Demmert, 2011). The Hawaiian Cultural Influences in Education (HCIE) study defined CBE as "the grounding of instruction and student learning in the values, norms, knowledge, beliefs, practices, and language that are the foundation of (an indigenous) culture" (<http://www.ksbe.edu/SPI/cbe.php>). While the concept of culture-based education is not unique to Hawaiian education, over time a uniquely Hawaiian version has emerged (Kana'iaupuni, Ledward, & Keohokalole, 2011; Kana'iaupuni & Kawai'ae'a, 2008; Kana'iaupuni, Ledward, & Jensen, 2010). Five areas are seen as encapsulating Hawaiian CBE: Use of heritage language in teaching; *'ohana* [extended family] and community involvement; content: culture and place-based; context, and data accountability (Kana'iaupuni et al., 2010)

As will be shown in the results below, this cultural perspective provided a strong underlying pattern in the way the teachers' stories were told and the ways in which they situated their technology views.

Methodology

Narrative as a method

This narrative case study comprises the presentation of eight HLIP teachers' stories. Such "personal descriptions of life experiences can serve to issue knowledge about neglected, but significant areas, of the human realm" (Polkinghorne, 2007, p. 2). The focus is on using the teachers' words as translated from Hawaiian to tell a holistic story rather than on interpretive or thematic analysis (Clandinin & Connelly, 2000; Polkinghorne, 1995). Storytelling is a "way of knowing" based on experience; it allows "silenced voices" to be heard through narrative inquiry (Denzin, Lincoln, & Giardina, 2006, p. 774). In this form of narrative study, the narratives are developed from the words of the interviewees to portray personal accounts of lived experiences (Clandinin et al., 2007). These authors noted that narrative inquiry can be used to understand temporal conditions, social interactions and spatial influences, all of which are elements for portraying the teacher's expressed understandings of HLIP development. Further, narrative is particularly relevant for this study given the Hawaiian tradition of transmitting knowledge through oral stories (Ho'omanawanui, 2004).

Participants

Eight teachers were selected for the interviews using purposive sampling. All are female and native Hawaiian. The first four stories are by teachers who were part of the initial generation to teach classes in the *Papahana Kaiapuni*, thus experiencing the struggles of start-up and the gratification of seeing their new program grow and thrive. Given the small size of the initial program, these four represent almost the entire population of the first teachers.

By contrast, the second set of stories are by four Hawaiians selected because they were students of HLIP and have now become members of its next generation of teachers. For these teachers, HLIP always existed and the intense struggles of formation belonged to their elders. While influenced by the initial teachers, the newer teachers represent the digital generation for whom computers and the Internet were part of their childhood experiences. These younger teachers have seen the evolution of the program over almost three decades as well as the changes to the technologies used within it. Additional demographic data are provided within each individual's story below.

All the participants were known by the primary researcher who was also an early teacher in the program, and two of the younger teachers interviewed had her in their elementary years. None of the participants teach at the first author's school as a way to provide greater distance in subject and place in the study. Permission for the research was obtained from the University of Hawai'i Mānoa Institutional Review Board and the Hawaii Department of Education (in regard to those who still teach in the public schools) with informed consent forms signed by the teachers.

Data Collection and Analysis

The data were collected through semi-structured interviews between late 2011-early 2012. The interview questions were tested in a pilot interview, and the final instrument was sent to the participants in advance. Each teacher was interviewed individually at the site where she currently teaches or works. The interviews were carried out in Hawaiian, translated

by the first author, herself an early teacher in the HLIP, and two former HLIP students participating as research assistants, then returned to each participant for verification. The teachers' interview responses were then reorganized to follow narrative style following a temporal mode to highlight changes over time (Polkinghorne, 1995).

Analysis was developed using a paradigmatic frame to highlight common themes based on the literature of change theory and cultural-based education concepts (Polkinghorne, 1995; Webster & Mertova, 2007). Initial themes were identified by the primary researcher and her assistants, then reviewed with the participants. The second author served as an expert and outside reviewer to help validate the findings.

Introduction to the Stories

In the following stories, fictional names have been given to each teacher-storyteller to protect the individual's privacy and ensure anonymity in keeping with standard research ethics. To help with Hawaiian words, Appendix 1 provides a glossary of some common terms.

Teacher 1: Aloha's story

Aloha was one of the first teachers in the *Papahana Kaiapuni* and now works as a professor educating a new generation of Hawaiian teachers. Like the other early HLIP teachers in the study, Aloha was not a native speaker of Hawaiian but learned it as a second language when she was young from relatives who had heard it in their childhoods. At the time, very few native speakers were left and this older generation was dying off, threatening an end to Hawaiian as a living language. Even growing up in New Jersey, Aloha's family continued traditional customs.

I am Hawaiian because my grandfather was 100% Hawaiian and he was a native speaker. I am German and Hawaiian. I was born in New Jersey. When I was young my father encouraged me to learn Hawaiian. He took me to classes. My uncle prepared lū'au and kalua pig. We made parties and we made leis. My father was a farmer so it was important to cultivate by the phases of the moon. We grew food and flowers to make leis. I'm Hawaiian.

Although her grandfather died when she was young, she was encouraged to learn the language and continued to expand its use as she went on to college and within her own family after marriage. She sent her young children to the Hawaiian immersion pre-school, *Pūnana Leo*, a foundational setting for the public school immersion programs.

In my childhood I learned the vocabulary. My father encouraged me to do the things that I could, to use the vocabulary that I could. From learning songs, this is how I learned some language.

Because of this desire when I went to college I was immersed in Hawaiian lessons and got to know my first husband...he was very strong in (Hawaiian) ways. He was my first Hawaiian instructor. From our sharing in the Hawaiian Language, we promised each other to only speak Hawaiian to each other and our children. Therefore, our family was nurtured in the Hawaiian Language at home.

The Hawaiian Language is the first language at home. My children spoke Hawaiian before they went to Pūnana Leo. I have much gratitude for the ‘Aha Pūnana Leo for establishing the program so [my children] can continue the Hawaiian Language and bond with other people, not just at home.

Language preservation was a strong motivation for her teaching, but she also talked of the importance of the culture that is carried by the Hawaiian language. She noted that beyond academics, there are traditional and spiritual sides to her work as a teacher.

It started with the idea of the language – to preserve and revive the language. But, it was quickly known that it wasn’t enough. It was important to help one another. You have to learn all of the sides [for cultural revival]. That is to say, the behaviors; hosting visitors, helping one another, leaving the shoes outside of the classroom...those are some of the [traditional] behaviors.

Then there’s traditional knowledge. Academics are important. On the Hawaiian side you have to learn the lessons from the elders inside of the classroom. The Hawaiian Language is important.

Then at the end, there’s the spiritual side in your work. Every time there’s a meeting, a presentation, there is prayer, singing; that respects our elders, gives thanks to God, our elders, our friends, our teachers. That is a part of teaching inside the classroom too. We have to maintain our traditional knowledge.

Like the other teachers early in the HLIP program, she noted the shortage of resources and the importance of non-digital technologies as a way for teachers to create materials as well as help preserve the language. As an example, she showed how books had changed as computers allowed more options for quality and quantity in production.

Another obstacle in the past is that we had a shortage of money, resources, and abled bodies.

We used to use typewriters before the use of the computer, and even then it was dot matrix [printing] which was not very clear. We had to cut and paste [Hawaiian translations onto English [children's books] with real glue. These days they can use [commercial printable] label paper.

We have come a long way with book production. Here we have an example of a book that was cut and pasted, and then the black and white book that was photocopied with no color. Now books are printed in color. This is progress but it takes money.

Because the early immersion programs were often a school-within-a school rather than being in their own buildings, a situation which is common for many of the programs even today, Aloha emphasized how important leadership was to making sure needed resources were in place.

As for the principal, if the principal supported [us] then teachers and the students progressed. But if the principal did not cherish the program, that was a problem. A weakening of the program could be seen.

She noted that the tools available at the time of the interview had improved the possibilities for teaching. With such tools, she saw that current teachers and students were able to do more.

One tool that is really good these days is Ulukau.org [the online Hawaiian Digital Library]. When searching for words, you can find them quickly, and the students of today don't search for words in a book. They are accustomed to technology which is a progression at present.

One other tool today is the Smartboard. I know that it is a new level that can move [teaching] forward. It is a tool that can strengthen [our programs] today. That is one thing we've thought about – the purchasing of Smartboards. It speeds up the [lesson] preparation for the teachers.

Aloha pointed out that students have many more options now because of the general availability of technology and increased technology literacy, as exemplified by her own daughter. She also recognized that computer skills would be essential in the future.

In the beginning of [computer] technology, it was just an extension of text in word documents. I see the progress in my daughter in twelfth grade now with investigations on the computer, searching and utilizing it until she posts the product of her technology skills.

My daughter is in the twelfth grade and she is very smart. She always creates presentations, and she is really quick. My daughter photographs and video records events for documentation and those are tools that are helpful. I think these skills are needed when they enter college, and also when they acquire a job. If you have the skills you can fulfill the requirements of the job. It is a great help.

While technology was viewed positively, she also warned that its use must be carefully considered.

[Technology] is a great help. But, you can't forget the traditions—the Hawaiian traditions. These technology tools are just input devices. We need to preserve the sources of Hawaiian tradition until the Hawaiian traditions can be extended with these tools. These tools are just for presentations, but we need to foster the native in the child.

Teacher 2: Po'okela's story

Po'okela lived in a Hawaiian community growing up and learned Hawaiian from family and community members.

I am Hawaiian. My father was 100% Hawaiian and my mother was three-fourths Hawaiian so I'm Hawaiian. We are Hawaiian, not just by blood, but by the way we were raised....I was born in 1951 and lived in Kalihi at a time that there were many Hawaiians living there. I was also raised in Kalama'ula, Moloka'i, on Hawaiian Homelands of my grandparents, with my aunties and uncles. My second family lived on Moloka'i at that time—they were my

grandparents. Therefore I was close to these people and their lifestyle was Hawaiian–full Hawaiian.

She noted that the HLIP school's technology had changed over time, with new computers and new capabilities. Po‘okela also contended that in general, Apple computers consistently had better tools for Hawaiian language and had been favored in the HLIP.

Some of the tools of the past that impacted education included cassette tapes and the Apple computer. Until this day, Mac is the preferred computer because of its potential to create lessons and book production [in the Hawaiian language].

In the 1970s, there were these tape recorders, and then [we] had cassette recorders. Two big reels at that [early] time when the Hawaiian voices were recorded. Those were the important things of that time, for recording the language. And for the books, it was technology to [help] write and print the books. So, [it was] the making of books through writing, and the recording machines of that time.

Then after that, Apple computers were available. In the 1980s, [we] had Apple, the first computers. [We] decided at that time to choose the Apple, not the PC and IBM at that time due to the kind of programs [on them] – [The Apple] was better to create [Hawaiian] lessons and produce books. Macs are better until this day.

Beyond traditional teaching, a major role for technology in the early stages of HLIP was preserving the voices of the Native speakers who were disappearing as they aged and died off. Initially recordings were made on reel-to-reel than cassette recorders. She indicated that care needed to be given in how technology was used and to remember the importance of face-to-face interaction.

One of the obstacles of the past is the Native speakers were dying. [We] had to quickly record them, therefore, it was important to acquire [recordings] of these elders. Of the elders who spoke Hawaiian, they were not awkward in their Hawaiian speaking – [they were] the last people. [The native speakers] worked in a style with authenticity and truthfulness. They spoke, they were relating personally, because for the Hawaiians it was important to be personable, relating face to face. Then technology was used as an assist

So the cassette machines were valuable at that time for the immediate recording of them. [It] was very good. Hawaiian custom is to relate on a personal level face to face. Technology was not used to replace face-to-face discourse. It was deemed as necessary to record the Native speakers who were passing in age. Then after [we] had computers its value was different.

She pointed to the increasing tools for Hawaiian language learning that were now available online, and the growing availability of Hawaiian language resources to a larger audience.

Leokī [a bulletin board and email system for synchronous and a-synchronous discussion] was the first Hawaiian Language email with so many possibilities. It was great to unite all the people across the islands, since Hawai'i is a combination of many separated islands. It was helpful to have Leokī. These days we have Ulukau.org [the Hawaiian Digital Library, a free online resource in Hawaiian and English] and Wehewehe.org [a free online dictionary in Hawaiian and English] as it is helpful to all the people in the Hawaiian Language. It was Hale Kua'amo'o that researched that.

Po'okela saw the advantage of new technologies for teachers as in part making their work easier than in the early days of HLIP. But she also suggested that learning new technologies was a challenge.

Technology is a great support. Teachers are supported for the needs of the job that will be formed. There is value in the multitudes of work that can be accomplished. A teacher can't see its value until the teacher uses that technology. Technology has the potential to become helpful.

Technology can be good, and technology can be bad. Thus, here is an example --you learn PowerPoint because you want to create a small slideshow, but there is so much more that can be done with the PowerPoint, such as the pictures, changing the pictures to charts, the video, the voice, and how to animate it. There are so many choices. It is best to get acquainted with technology. Technology is at its best when you have learned its functions.

It is up to individual teachers on how they use technology. We have Smartboards, Elmos, LCD projectors, iPod casting, CD players, iMovie, and all the tools of the Mac computer. One challenge in teaching is due to the numerous choices; one can get side tracked. Therefore, it is important for the teacher to guide the students to reach the [academic] goals.

Today technology, computers, and cell phones are more complex. Due to such complexities, technology has more potential to make a person smarter and prepared to use these technologies in the job force. Our school has digital cameras, digital video recorders, and laptop computers that are being used. However, you need both sides, for if we only cling to the computer that is not the only way of learning for the children.

Some of the obstacles of the past until this day is instruction – how to infuse technology in teaching. There are not that many people that are real experts with machines these days. That obstacle will continue because of the endless creation of new technologies.

Teacher 3: Ka'imi's story

Ka'imi came from a home in which Hawaiian was spoken by her grandparents, who were Native speakers, and influenced her early language learning.

I was really lucky because I was born at a time that we had Native speakers in the family. My grandparents were both Native speakers. The families of that time, the grandparents' generation, were all Native speakers. But as for their children, for example my father, he was raised hearing the language but the mother tongue was not his first language. He spoke English. My mother was Okinawan raised on Maui but she was raised in the traditional Hawaiian ways.

It wasn't until I entered college that my parents saw my desire to learn Hawaiian. They spoke Hawaiian between themselves, on the phone, and at family gatherings. Then when I went to college my grandparents began to speak Hawaiian to me. I knew when I was thirteen years old that I wanted to teach my children Hawaiian.

I don't know if my blood is the reason for my behavior and attitudes; my culture is definitely Hawaiian. My culture guides my traditional knowledge, pleasant behaviors, and Hawaiian way of thinking....Hawaiian was the custom of my home. We hosted visitors in the traditional Hawaiian way. The rules of our home were Hawaiian.

Kaimi's commitment to raising a family speaking Hawaiian was a major incentive for becoming involved in the Hawaiian Immersion movement as well as a desire to seek out others with similar goals.

We speak Hawaiian at home. My children and grandchildren have been raised in Hawaiian. When my first daughter was born, there were no Pūnana Leo preschools. I decided to speak Hawaiian at that time. At that time there were only five or six families that spoke Hawaiian at home. There were few of us and we were separated.

[Hawaiian Language] was important to me because of the closeness with my grandparents and my family, and because many of my cousins were teachers in the Hawaiian Immersion Program. My family sent their children to the Hawaiian Language schools – and it was my family's desire [to learn]. There is justification that by being raised with the language at home...that [the desire] would grow amongst the family.

Although Ka'imi became a teacher then administrator in HLIP, initially her involvement was as a parent. In the early history of the program, the great need for resources including developing curriculum materials in house, fell not only on the teachers but the parents, requiring significant time and commitment. Like Aloha, Ka'imi moved on to work at the university level to impact the next generation of Hawaiian teachers.

When I first started, I was a parent with a responsibility to create lessons for Pūnana Leo. At that time I worked as a Hawaiian Language teacher for Kamehameha Elementary School. So all of my career positions have embraced the Hawaiian Language. [Initially] I could only help [in that one] classroom, but at the university I can help the entire state.

Ka'imi pointed to the lack of resources in the early schools and how technology came to be used to help expand learning materials. In particular, traditional materials and technologies were sources for learning.

There was not enough of everything from the beginning. The lessons, the people, the funds, the place, the training, the principals, the laws – everything [was needed]. We started with our hands and imagination and wished for all of those resources. We had to search and build. That is what we did—build, extend and analyze, that was the kind of work it entailed.

That is a difference from these times. In the past there were two sides of education. We had counters [for math] like teddy bears and I used those, but for the majority of the time I looked for things from the land. It was my desire for the children to understand that there is a relationship between the land, math and science in their lives. If I only used the English manipulatives, they would not know that there is mathematics and science all around them.

In my day they had just begun recording the voices for the books [at the listening center]. There were not many books at that time. The majority of the cassettes from *Hale Kuamo'o* [the Hawaiian language curriculum center at the University of Hawaii Hilo] were ones that I wanted so the children could listen and hear the different Hawaiian voices; it helps. I wrote some books and songs because we didn't have [many] things.

Throughout her story, Ka'imi compared the Hawaiian schools with the traditional US ones both in general and in terms of technology. She emphasized the strong linkages between school, family, and community in the HLIP as a major difference.

[Hawaiian school] is different from American models. [Ours] is culture-based education. This has grown in one generation. But [ours] is not the style of teaching as the regular teaching practices of America. In my opinion, our goals are different. For one, America prepares the kids with the content knowledge so that when the kids are ready they can choose what they want to be. But there is no built in support.

In Hawai'i there are many Hawaiians and non-Hawaiians that are interested in Hawaiian. There is not just one way of teaching. There are diverse needs of the kids while the goals of the families are different. Our children don't live in America alone – they also live in Hawai'i. They need an education to prepare and raise kids to learn about this place – Hawai'i. It is not work – it is a lifestyle. That's the difference from American schools. [Students in US schools] can separate what they learn when they reach home. In Hawaiian it is not separate; it is a part of your community and family. We are broadening and strengthening our kids' learning to prepare our kids with all they need when they grow up, but not only for [work]. We are preparing them for adulthood and parenthood as well. And the support is Hawaiian.

As computers became a part of the HLIP, according to Ka'imi the teachers learned to use them and were in general as well prepared if not better than their counterparts in the traditional public schools.

In the beginning of the program we didn't depend on technology. When we got computers, then we began to place more emphasis on developing technology skills—how to make use of that software. It was all brand new.

Those days were different. These days we just think about how to make use of the technology in various ways. Not for just teaching—for utilizing technology. It isn't just learning how to use it; it is how to apply technology. We reached a certain level of efficacy. I can tell [the difference] because in the beginning of technology use in our program [teacher name] and I started by merely translating software so the children would know that technology could be used through the Hawaiian Language. Once we became more equipped with the computer components, the [Hawaiian] keyboard, and all the [other] things needed to increase the value of technology use in the program, we were not behind. We were right up there with the other people, but in the Hawaiian Language; therefore, that was the time to search and secure the needs, the substance, and the skills needed within the program.

Not only had the technologies changed, but so had the skills of students entering Hawaiian Immersion Programs.

For a number of years, we didn't reach the level of readiness. Students didn't enter ready for technology. They were at a beginner level and we had to teach them. As time passed, one could see the change. They come with some prior knowledge of technology. Therefore, we are making changes in the way we prepare [them]. Before, we needed to teach Microsoft Word, Leokī. Now, we can fully utilize technology in the math class, in technology class. Therefore, technology has become more of a tool.

The percentage of readiness was different then, but no one was without. Now I can just think about how technology will help me at work...[Back then] it was all new.

For Ka'imi, the technology was a tool and its use was set by the person. In discussing the change from cassettes to digital recorders, she noted:

In my opinion the program will change as technologies change because behaviors need to change around the use of technology. Your skills needs to be different because the technology is different. As for one's behavior, one can be vigilant in the [Hawaiian] way we think about it.

In using any tool to record a voice, [you can] still maintain the Hawaiianess of what you do. I Skype my children similar to conversing on the telephone like grandparents did. We just have different tools. The technologies are different, but the results are the same. The truth of the matter is I don't see any harm in technology. The problem lies within the behavior of the person. One needs to think, what is the proper usage? We have to be mindful of our [Hawaiian] behavior. Technology does not harm us. We [have the potential to] harm ourselves.

Teacher 4: Hiwahiwa's story

Hiwahiwa came from a Hawaiian family but spent some of her early years in Okinawa. She learned Hawaiian customs though Hawaiian language learning was not until her later elementary years.

I am a Native Hawaiian by definition of the Office of Hawaiian Affairs and the Department of Hawaiian Homelands. I have at least 50% Hawaiian blood quantum. I identify with the Hawaiian cultural heritage.

I was born in Hawai'i. Both of my parents are Hawaiian. My father was in the military so I spent first grade in Hawai'i and second through third grade in Okinawa. In Okinawa I danced hula for our Hula Hālau. My family made friends with the other Hawaiian families overseas. We all looked alike because we had Hawaiian features. I was the only Hawaiian in my class. I recall in third grade a student pointed out to me that my color was different and asked me where I was from. My mother taught me to tell everyone that I was Hawaiian.

I came home in the fourth grade and quickly adapted to my Hawaiian culture. At the Kamehameha Schools I learned the Hawaiian Language, hula, paddling canoe, surfing, and various arts. Hawaiian identity was modeled by other Hawaiian students at Kamehameha. It was also modeled by my family members. My family played music while the girls danced hula. We made fish, Kalua pig and laulau [traditional foods] for our lū'aus.

My grandmother and aunty were kahuna, or religious practitioners. They could heal wounds and broken bones with traditional herbs and methods. On Saturday and Sunday people would go to them seeking prayers. I thought that everyone's grandmother knew traditional prayers until I was told not to mention that she was a kahuna because traditional methods were discouraged by other churches.

Hiwahiwa had been a parent or teacher with HLIP since it began. Like others with the program, she had raised her own family speaking Hawaiian at home.

I married a part-Hawaiian man, also a military dependent who was raised in Hawai'i. He spent summers with his Hawaiian uncles who taught him traditional hunting, fishing and diving techniques. My two daughters were raised speaking Hawaiian, dancing hula, and chanting through their experiences with the Hawaiian Language Immersion Program. They also surfed and paddled canoe.

I have been a teacher and/or parent with the Hawaiian Immersion Program since 1986. I was intrigued with the Hawaiian Language since my earlier years as a student at the Kamehameha Schools. I took Hawaiian Language classes at both Kamehameha and the University of Hawai'i Mānoa. I first worked with [teacher name] at the Kupuna Program and it was at that time that I learned about Pūnana Leo o Honolulu. I was enrolled in the UH College of Education at the time. I always knew that I wanted to become a teacher, but it wasn't

until then that the concept of teaching through the medium of the Hawaiian Language became a reality.

Hawai'i is a place where I live, eat, and breathe through the Hawaiian Language. These are some reasons why I call myself Hawaiian.

In the early years of teaching, Hiwahiwa noted that books were not available which required making them by cutting and pasting Hawaiian translations to put over the printed English text. Despite new technologies, books remained in limited supply for Hawaiian teaching.

When I started teaching I didn't have a single book in my class. The other teachers were so kind to give me some books for my class, but my class was older than their classes. I taught third and fourth grade. The books were below [my students'] reading level. I started to translate some books. We conducted cut and paste sessions for the parents to help put the translations into the books, but the translations were mostly for lower grades.

There were not many chapter books. However, translations done for the Hawaiians of Old were given to me by [one teacher]. [Another] helped me to translate some Hawaiian math lessons until the arrival of a few chapters of Addison Wesley Mathematics in the month of March. [It is] still one of the few math textbooks translated into Hawaiian—the same Addison Wesley book from when I first started my teaching career in the mid-1980s. New translations remain to be seen. So while we have potential with technology, we have a long way to go.

That was all that I had in the first year so we started to write our own stories. The older students began to write books in Hawaiian which were shared. The students wrote books about their visitation to the State Capitol where they gave testimony in the Senate House about the importance of the Hawaiian Language. They wrote a book about their fieldtrip to I'olani Palace. These stories [with student illustrations] were published by the Hale Kuamo'o. From that point on, book authoring was an important part of curriculum due to the lack of books....In the past we had to cut and paste our books. Today the books are printed for the classrooms. This is the potential with the use of technology. The lack of books [in Hawaiian] was and remains a challenge.

Throughout the years, my students have acted out Hawaiian legends at the Kamehameha Schools, the University of Hawai'i Mānoa Campus, Honolulu Community College, and Leeward Community College. These videos and stories have been saved. Many others contributed to the curriculum, continually enhancing the availability of resources. I am thankful to all of those who have united to help with such harmony.

Hiwahiwa noted that newer technologies would have made teaching easier and helped make more resources available.

I wish I had a Smartboard, computer, and projector back then. It would've saved me lots of time. I remember creating lessons on the typewriter so they

wouldn't be handwritten. If I had the Smartboard and computer, I would be able to search for my needs, translate it, and project it onto the screen for my students. Then we could see the colors of the rainbow, but when we photocopied the books, we only had black and white copies.

Like other teachers, Hiwahiwa pointed to recordings as ways to preserve the language and share the recordings more broadly. She noted the changes more recently with so few Native Hawaiian-speaking kupuna remaining to join HLIP classes in person.

We continue to use the tape recorder, the camera, and the video recorder, but the difference is that it is digital these days. The tape recorder of yesteryear had a cassette. Today the recorder does not need a tape. Before, when you took a picture you had to develop it at Longs Drugs. Today I can develop it by myself.

In prior days kids spoke with other kids from the outer islands on the lumaphone. It is a kind of phone that could transmit a photo in 3-5 seconds, and could be hooked up to a printer or a TV for conference meetings. Now we have a cell phones (Facetime), Skype, Twitter, and Facebook.

Other changes are the shortage of Hawaiian-speaking kupuna in the classrooms as a component of the program. That's a difference; there is no face-to-face discussion. The similarity is that we continue to need books and lessons in the Hawaiian Language.

Technology is good.... Here we are, the Hawaiian Language Immersion Program, existing due to the Hawaiian Language.

Teacher 5: Kūlia's story

The following four stories represent four individuals who grew up with the HLIP in place, attending as students in the early years then becoming teachers themselves, inspired by the first generation of teachers such as those above.

Kūlia, like most of these children, grew up in a Hawaiian-speaking household within the community of families from HLIP. For her, Hawaiian was a first language as both parents continue to teach Hawaiian, and it was the language spoken at home.

I am Hawaiian because my grandparents on my mother's side are Hawaiian and my family speaks Hawaiian. I've been in [the Papahana Kula Kaiapuni] since I was a student so I can connect with other students.

I live a Hawaiian lifestyle because my parents teach Hawaiian [father teaches college level and mother is a Hawaiian Language Immersion teacher of over twenty years]. My brothers and sisters speak Hawaiian, and my son speaks Hawaiian. My role in the program today is that of a former-student presently teaching.

Unlike the newly formed HLIP communities, the first generation of teachers and students faced many obstacles to attend the few HLIP schools available. Many commuted

from the other side of the island, as there were few schools but families made the effort to belong.

The [school] was far from the place where we lived, therefore, the drive was distant. At the time that we began learning English, it was kind of hard for me because we didn't speak that language. As soon as we entered our home we only spoke Hawaiian. For me, it was kind of hard when we started in fifth grade [when formal English lessons begin in HLIP]. As I said, I only learned English at school, sometimes at church, but just a little.... Today there are many Hawaiian Language Immersion Schools. One doesn't need to drive through numerous towns to get to school, but this is in reference to the past.

Kūlia remembered the early uses of technology discussed by the first generation of teachers, and the time families put in to make materials. Much learning came from listening. Computers were not there in her first years but appeared by late elementary.

At that time we didn't have lots of books. The parents had to cut and paste various books. The parents supported [the schools] a lot.... We used cassette tape recorders to listen to [Hawaiian] stories. And the kupuna, in my opinion, [were a teaching resource] because they knew so much. We also listened to songs.

Video recording machines were used by me when I went to Hawaiian Language Immersion Schools, using the tools that we had at that time. I saw pictures, video, cassette tapes of us singing, roleplaying, and speaking. In my opinion all of the teachers had something, but I am not sure what tools each teacher had. These days [student performances] can be saved on a CD.

We did not have many computers, but I remember we had them. I was in the fifth grade [when we got them]. When I went to Hawaiian Immersion, I didn't use the Leokī email. There were not enough computers. I didn't start [to email] until I went to Kamehameha [Schools].

Kūlia noted that today in fifth grade, students are still using computers but in many new ways.

[Technology] is important because everyone has it these days. Everyone has email, computers, cell phones and such; therefore, as those needs continued, [the technologies have] grown with the Hawaiian language. Like the Mac[intosh] these days, it has the glottal stop and the macron, therefore, it is easy to type and print – we don't need to write.

The fifth graders took pictures and made iMovies. They made these themselves. This is interesting for them. They can show it to their parents. It is a keepsake.

With the computers and new technologies of today, [we] can save things that the children made to show to the kids after them [like videos of singing]. I don't know if they currently do this, but [they] can use the computer to Skype other classes at other places.

Teacher 6: Kamalani's story

Kamalani began in the pre-school and continued throughout her school years in the HLIP. She is now a teacher in the program. Like the other second-generation teachers, she grew up speaking Hawaiian at home and following Hawaiian customs.

I am Hawaiian because of the way I was raised, the food that I was raised on, and the schooling that I received. I am Hawaiian by blood with other ethnic backgrounds but I am not familiar with those other cultures.

I speak Hawaiian at home and school. Hawaiian is my first language since I was a baby.... My mother's grandparents and my father's dad spoke Hawaiian and I grew up conversing with them.... I surf, paddled canoe for three years, and I danced hula for at least three years. My father taught me how to play ukulele. I also chant, sing, and pray in Hawaiian.

For Kamalani, Hawaiian was not only the way for raising a family but engendered a greater responsibility to continue the language and behavior.

I also raise my children in the Hawaiian Language – only the Hawaiian Language. We have a taro patch at my house that my husband cares for. He is part-Hawaiian and he learned to speak Hawaiian when our daughter was born. Since I was raised in Hawaiian, I experience the world through the Hawaiian Language by teaching my students and raising my children in the language.

There is a responsibility placed upon me being raised in Hawaiian and all my choices are made based on this *kuleana*, or responsibility. I teach Hawaiian and I go to school so that I can help the Hawaiian Program. My *lawena*, or behavior is very Hawaiian. My purpose for telling the story is to look at the past and see the things that allowed us to move forward and the things that made us strong; to see the value of this program and the things that we need.

Because the HLIP was still developing, Kamalani had to attend non-immersion (English medium) public schools for part of her elementary years. Being a Native speaker was not welcomed in the public schools at that time despite Hawaiian being one of the state's official languages. But from adversity, Kamalani found strength and inspiration for her own teaching.

For grades three, four, and five, I went to a foreign [English medium] school and I didn't speak English very well. I didn't even read English. I only knew the word red. R-E-D, red.

On the first day of school the teacher told me to stand up and read. My mother told her [and me too] that I didn't read English – I went to Hawaiian Language school. She told me the students in third grade can read English.

[The teacher] said okay and then when my mom left she told me to stand and read. She said that all third graders can read. I told her that I could in Hawaiian and she told me this was not a Hawaiian school – this is English school.

So in the fifth grade I wanted to show that teacher that Hawaiian Immersion children are smart too. So I worked hard. I entered the AGT (Academically Gifted and Talented) class. I became the leader of the volleyball team. I worked hard so she wouldn't think like that about all Hawaiian Language Immersion kids. I won't mention her name....I learned a lot from her – when I get grouchy at my students I reflect and think to myself that I can't act like that to my students.

Kamalani not only had an understanding as a student in HLIP but her mother was also one of the first teachers. She was very much aware of the resource issues and the hard work of the teachers and parents to make the program successful in the early years. She also suggested that the constant battles with the government for funding and recognition were more a part of the past as the program has now proven itself, but resources remain limited.

In the past the needs were the support of the government – that's the obstacle of the past. That's one thing, the need for money, the school, and the books. [In the beginning of the HLIP], I was on a different island and I was not in the Hawaiian Immersion Program because I was two years too old, therefore, I reflect on my mom's [Hawaiian Immersion] class, and the things that she did there.

That's an important thing – the tools...In the past there was not much technology. There was so much responsibility placed on Family Day to cut and adhere [the Hawaiian Language translation over the English text]. Today these items are printed in Hawaiian, but before you had to gather every Saturday. The parents and the teacher watched the children while taking care of the responsibility [of cutting and pasting books] and fed the people too. That was big project to have books in the classroom, but today the books are printed.

Less time is spent as a teacher doing the kind of work that my mom used to do. Everything the class needed was made by the parents and the teachers. They worked until night fall every week until the class was supplied. Now the class is supplied and you can just teach.

I think we've progressed since the beginning. I started with the computers in the fourth grade, but there weren't many Hawaiian programs at that time. Now we have the tools to create. Now it can be purchased. Before during my mother's day it couldn't be purchased. You had to make everything. Back then my mother had to crank the photocopier machine but today you can copy in color.

Before we had technology we had so many responsibilities in preparing books and lessons for the classroom. Today these items can be purchased or shared online. On the platform Moena'ehā.org, teachers can share their lessons with one another. One teacher alone does not have to create all the lessons. There is collaboration. Technology is good because teachers need it to create lessons, the Hawaiian Language teachers, because there is not enough time for only the Hale Kuamo'o to create the lessons for all of us. We need the tools so that we

can create....So I am thankful for technology because more [tools] are invented for teachers.

As a teacher, Kamalani actively incorporated technology into her teaching using the many different tools that have come along to support the teaching in Hawaiian.

My class has a Smartboard. That's technology. The Elmo is not needed. This Smartboard shows videos, it can make sounds, and it's like the iPod Touch because the children make choices, draw and enlarge it with their fingers, and move things like that.

It is interactive, therefore, I can see the Smartboard has encouraged my class. Before in second grade they could sit for perhaps twenty-five minutes on the carpet, but with this, while they work on the Smartboard [they can sit for] sixty minutes. We can work for a long time on the Smartboard because it is not just up to the teacher to do the work. The children work together to show their knowledge. Previously, my units progressed slowly. In the first quarter we were lucky to get through two units, but now due to the Smartboard [the students] see the pictures and they comprehend quickly resulting in a faster progression through the units. We are [now] on the fourth unit. Their speed has doubled.

The same goes for the other classes. As for vocabulary, learning the new words has been strengthened with the various pictures on the World Wide Web. One can show the adjectives, objects, and verbs by looking at it. The Smartboard is great.

Like other teachers, while technology was seen as beneficial, it also had its downsides, including the many English materials on the Internet that pushed students away from Hawaiian language. However, she linked progress of the HLIP curriculum to the advancement of technology.

The interest in technology is growing, but there are still not enough tools in Hawaiian....My teaching has changed. The only concern is when the electricity doesn't work due to the rain in Hilo. Then we have problems so we have to return to paper and pencil for writing.

I am thankful to 'Ōiwi TV [broadcast television programs in Hawaiian also available for download on the Internet], Ulukau.org, and Wehewehe.org, but that is not enough, not even enough to count on my fingers. 'Āina 'Ōiwi is a help....We have Hawaiian Language resources available because of technology. I use Wehewehe.org daily. I use Ulukau.org weekly. 'Ōiwi TV was the first television program that I could use in the classroom with the Hawaiian speaking kids. Therefore, I think we've come a long way.

At this school they are really strict about English [not] being shown [to the students]. Sometimes you have to work on a unique project because it doesn't exist in Hawaiian; therefore, [we] have to be vigilant. I am concerned that we are all surrounded by technology, but I think there aren't enough programs in Hawaiian. People are interested in technology, but there are no Hawaiian

programs like games....So these are my concerns. Given the interest of the children in technology, if there is not enough Hawaiian to use, they will use what's there.

For the majority of the time I think that technology helps us....I think the advancement of technology in the Hawaiian Language Immersion Program has led to our progress.

Teacher 7: Lōkahi's story

Lōkahi also learned Hawaiian from an early age. She was not initially in the HLIP but began in second grade. She noted the many changes to Hawaii since childhood and told of her responsibility (*kuleana*) to the land and culture.

I am Hawaiian not only by percentage but Hawaiian is all that I know. My parents could speak a little Hawaiian. I am lucky because all my great-grandparents on my mother's side could speak Hawaiian. I was the only child at home until I was nine years old. They all spoke Hawaiian to me.

I didn't go to Pūnana Leo, but when I visited my family at Keaukaha they spoke Hawaiian to me. In second grade my father asked me if I was interested in going to Waiau [a HLIP school] and I entered so that I could speak with my grandparents. My father worked for Office of Hawaiian Affairs and he was interested but he didn't force me....I am Hawaiian because as I was raised thinking that I had a responsibility to preserve the land and the language.

From her early experiences, she was inspired to become a teacher in HLIP. She did not yet have her own family but intended to make Hawaiian the language for her future children.

My role in the program is that of a former-student presently teaching. In my first year I taught second grade at Waiau [the same school she attended in second grade] and this was interesting to me because that was the grade level I entered when I began in the program. I came full circle.

I am interested in the changes in the program because we can move forward. I can improve on my teaching practices as well as reflect on how I will raise my children.

Lōkahi shared a story common to those who grew up in the HLIP—concerns by those not in the program that Hawaiian Language Immersion might not provide a good education. Many outsiders remain unfamiliar with the concept of teaching academic subjects through indigenous language immersion.

In the past while I was a student, I had no obstacles because I had a lot of help. My family helped me everywhere – at home, at school, and outside of the school. Perhaps [obstacles] are the perception of outsiders. How do you teach in Hawaiian? What do you do?

This is interesting to me because I am in college [in English] and they are not familiar [with our program]. It's been about twenty-five years since we were established and they are still unfamiliar [with our program]. They question how the children utilize the Hawaiian Language. They think this way because it is a Hawaiian Language school.

I think about all my former teachers. You all were strict. You all were lively [up with the times]. The Hawaiian Language Schools are important. The obstacles were outside of our program.

For Lōkahi, the idea of using technology in teaching her classes was a given, just as is done by the many other teachers now. She grew up with computers for most of her life, and recognized the benefits these have brought to the program. Among other things, she explained how technology can be used to establish identity and connections.

As I reflect upon the teachers of today; they learned under you teachers of the past...Our use of computers was for reading and typing [writing]. I was in the fourth and fifth grade when we started reading Hawaiian stories and it was on the computer. The computer was not just for typing text [writing].

These days we use projectors, digital cameras, and digital video recorders. One of the big events then was we produced a lot of plays. One can see the importance and the desire because we continue producing plays in Hawaiian Immersion. We produce plays, video record and watch them again. That makes it easier to save.

We write books and this is interesting because we use the books again. [Teacher name] sent us books from Hale Kuamo'o.

Genealogy [establishing identity through links to ancestors and the land] is important to me as I can announce to them at Open House who I am. I can show [this presentation] to the children and get to know them. Then they create a genealogy presentation.... The children engage using Kidpix because they can draw pictures and record [their story] about their genealogy. They create a slideshow about their genealogy and their family history. Then they burn it on CD. This becomes an assessment for oral communication in Hawaiian, writing, and technology skills. Technology can be used for various purposes.

Lōkahi saw technology as linking HLIP with the community. She was particularly concerned with having students interact with the kupuna and the potential of technology to sustain their wisdom both for the school and beyond.

One must invite the elders and Hawaiian people to come to the classroom and talk story with the children. Today, there are not many elders; therefore, we need to invite community members to come to the classroom. One can video record, photograph, and record their messages.

We can video record and save. We have to preserve what we have. We can show the videos [from the past] to the students these days. At school I can see

the videos and the elders' stories and we still use them. They listen to the voice [of the elder] and they know the difference. If an elder passes on, then they can listen.

That's my concern; you can't show responsibility and love from technology. That can only be learned from humans...The important thing is to relate to both [traditions and technology] or [the past] will be forgotten. If there are no elders that come to the class – technology is just a machine. Love comes from the elders.

I think about self-sustainability. Perhaps if the Hawaiian Immersion Schools continue to use technology, someday it will help the Hawaiians. We can progress on caring for our land like the past, because that was how our elders lived [caring for the land]. I am interested in that type of thinking outside of school as well. If we continue with technology, then we will have goals to preserve our land. I know that we will have a Hawaiian Language Immersion student who will advance in that area. We can preserve the land and the culture.

For Lōkahi, technology was a tool to sustain Hawaiian ways without forgetting cultural roots. But she also noted that we live in a world where technology cannot be ignored.

Technology can be used for various purposes. I have but one small concern. In the Hawaiian Language Immersion Schools you have to reflect on the Hawaiian ways. Hawaiian ways—not just technology.

I think about our lives outside of the school. We all use technology. I know that we all have cellular phones, i.e. Android. The students in kindergarten and first grade have these phones. They know how to use it.

I know that if teachers don't use [technology] then the class will be boring because it doesn't relate to [students'] lives outside of school. They will think the tools in the classroom are outdated. I think we can use the computer to read these days. I believe that we the teachers need to infuse technology, so, we can relate to these children. If not, the children will lose interest in learning.

Teacher 8: Pono's story

Pono grew up speaking Hawaiian and among brothers, sisters, and cousins who attended Hawaiian Language Immersion Schools. She became a teacher in the program as an adult.

I am Hawaiian because both of my parents are Hawaiian. My grandfather on my mother's side was pure Hawaiian. On my father's side both parents were half-Hawaiian. I am more than 50% Hawaiian.

My parents gave me pride to be Hawaiian. There were six children in my family and five out of six are Hawaiian Language Immersion students. By the time my parents had the fifth child they were tired of the work involved. I

convinced them to send the youngest to Hawaiian Language Immersion because I could see the difference.

I was the first grandchild to attend Pūnana Leo and Hawaiian Language Immersion. My grandparents encouraged my cousins to go to Hawaiian Language Immersion too. One went to Waiu and the other three went to Pū'ōhala. We graduated in the twelfth grade from a Kula Kaiapuni, or Hawaiian Language Immersion School. My cousins now work for either a Pūnana Leo or a Kula Kaiapuni.

My grandmother cared for Huilua Fishpond. She taught us how to build the fishpond wall there. When the waves come it destroys it, so she taught us how to restore it. We also have a taro patch in Kahana. My extended family is involved in Hawaiian Language education.

As mentioned by other past students, there were many challenges in being in the Hawaiian Language Immersion Program in the early days.

[There were many obstacles]. There was no curriculum before, therefore, the teachers had to create lessons, and cut and paste books. Another thing, the school was far, so we had to board the bus [to get to school]. My parents paid \$140 dollars for the bus bill. Four children from my family rode the bus, at \$40 per child per month. In addition, you didn't hear the Hawaiian Language outside of school and the home. These were some of the obstacles.

For Pono, technology had long been a part of learning. Technology was an important tool for Pono, who had enrolled in an educational technology Master's program to learn more.

Some of the tools utilized as a student were the Macintosh computer in the fifth grade. We used Leokī, KidPix, and we typed to write Word documents. We researched and took pictures of what was studied. We reported current events via Closed Circuit TV at school. If I could, I would have liked a Smartboard back then....I am now enrolled in an Educational Technology program. I used to wonder if I was the only person that communicates through technology.

Like other students for whom technology had been available for much of her school career, Pono saw it as a vital tool in the progression of HLIP and in her own teaching.

Technology has helped this program to progress, because that is how we make the Hawaiian Language known to others, and that is how we teach our kids. We have started to communicate with technology. We can use technology today to improve our teaching skills. I have an Elmo. It is good for teaching mathematics and reading.

Technology is special because it can assist the children who are challenged or have a difficult time with comprehending. I use the computer, Internet, video recorder, camera, projector, Flashmasters, iMovie, PowerPoint, IXL Math, Ulukau.org, 'Ōiwi TV, Wehewehe.org, Moenahā, and Photoshop. I want a Smartboard.

With technology so prominent in many lives today, she viewed technology as essential but to be used with thoughtfulness. Pono viewed it as more important than ever for teaching.

Technology plays more of an important role today than in the past. It is entertaining for the kids, but the kids need to learn the proper way to use it. I tried to teach my husband how to use technology and he told me that he bought the computer for me, but now he has a smartphone so he knows how. The use of technology is growing, therefore, if teachers don't know how to use it these days, they better learn.

Despite much progress, there still remain barriers to language use and regeneration with much yet to be accomplished, Pono stated.

We have progressed, but it is still like the past. There are not enough teachers, money, books, and students. We moved forward due to technology, but we haven't reached our goal.

We can't go to the store and communicate and hear our mother tongue outside of the classroom. It is so difficult that our program is so small....We are a small school within a school. There is not enough support from the government. If there were we would have Hawaiian Immersion Programs offered at all the schools. The struggle continues....How does one say that he or she is Hawaiian if the language is not known? Does one not see the relationship of our mother tongue and being Hawaiian? That is how it is the same.

Discussion

The previous eight stories document the journeys and views of teachers and students in the Hawaiian Language Immersion Program (*Papahana Kaiapuni*) within the Hawaii public schools. As proposed by Polkinghorne (2007), these stories express how the participants make personal meaning of life events and "how people understand situations, others, and themselves" (p. 6). In particular, the teachers spoke in their own words of their perceptions of how technology had been used in the schools and beyond, and its continuing potential for improving teaching and learning.

Technology was regarded by all the teachers as a key factor and necessity in preserving the language, following the results of earlier studies of technology in Hawaiian language regeneration (Hartle-Schutte & Nae'ole-Wong, 1998; Warschauer, 1998). Each of the teachers described the struggles in the early days of HLIP when materials were sparse and concerted effort went into language preservation as well as teaching more generally. They perceived a link between the challenges faced by the HLIP and the issues in their own personal histories of establishing Hawaiian language homes (Kawai'ae'a et al., 2007).

Most of the teachers described the overall struggles for cultural rejuvenation in which the HLIP was a major player, and where technology was an important tool for literacy and communications. The teachers appreciated technology change which brought new ways to create and share materials in Hawaiian as well as better digital methods to communicate with Native speakers outside of the school.

While earlier researchers noted that technology was a necessity for the HLIP classrooms (Hartle-Schutte & Nae'ole-Wong, 1998), the more recent interviews suggest that

technology is now something the younger generation of both teachers and students expect in classrooms, at least as reflected in these stories. This more comfortable attitude towards technology is a contrast to much of the literature on school technology which suggests in more traditional U.S. classrooms, technology is still alien to many teachers and is not easily integrated into their beliefs about teaching (Kim, Kim, Lee, Spector, & DeMeester, 2013; Liu, 2011). The HLIP teachers pointed to the increasing impact of technology in U.S. society generally and therefore saw it as important in classroom teaching to support students' future careers. While technology played a key role earlier in the HLIP program's history, uses continue to expand.

One further theme is that cultural values remain foundational in any consideration of technology uses in the classroom for all the teachers in the study. Although earlier researchers suggested the HLIP easily embraced technology, the teachers each expressed in different words a cautionary tale in adoption of new technologies. They suggested that ever emerging technologies were making teaching in Hawaiian easier but proposed the need for continued diligence. In particular, they argued for considering technology within Hawaiian cultural frameworks and values. This suggests that the commonly accepted view of Hawaiian culture as having fully embraced technology as a central element of regeneration may in fact be more nuanced and perhaps shifting from that reported by earlier researchers (Warschauer, 1998, 2000).

The technologies are different, but the results are the same. The truth of the matter is I don't see any harm in technology. The problem lies within the behavior of the person. One needs to think, what is the proper usage of the technology for us.

Conclusion

While the study reported here represents a limited sample of Hawaiian immersion program teachers and cannot therefore be used to justify claims that this is representative of the larger population, the teachers' narratives each contribute to a more complete understanding of the nature of their work and its connection to Hawaiian culture and values. In particular, the stories provide new insights on the role of technology in HLIP classrooms and the changes that the participants have seen over time. The goal in this article was not to provide excessive interpretation through "outside" others' points of view as had been the case in earlier studies such as Warschauer (1998) but to focus on the words and stories as told by the teachers themselves (Clandinin & Connelly, 2000; Denzin et al., 2006).

As Clandinin et al. (2007) noted, when exploring practice through narrative inquiry, "teachers and teacher educators have an opportunity to come to understand more fully our school landscapes and ourselves as shaping and shaped by these landscapes, and thus, to shift our practices in relation to teaching and learning, teachers and students, parents and families, and curriculum making" (p. 33). By using teacher reflection and self reporting of how teaching strategies prove to be effective, we learn more about how and why such discourse leads to productive teaching (Clandinin & Connelly, 2000; Desimone, 2009; Kana'iaupuni, 2003), and in this case, how culture moderates the story. Since it is the teachers who are responsible for change in the classroom, their concerns and suggestions for educational reform should be respected (Fullan, 2006).

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Appendix A: Hawaiian terms

‘Aha Pūnana Leo – literally, "nest of voices," the Hawaiian language advocacy group that established the preschool "nests" for reviving the language, the Pūnana Leo, and was the primary group that lobbied for the HLIP in the public schools.

Hale Kuamo‘o -- the Hawaiian language curriculum center at the University of Hawai‘i Hilo that produces many of the materials used by HLIP as well as other Hawaiian language classes.

Kamehameha schools – private K-12 schools endowed for the teaching of children of Hawaiian ancestry, non-immersion (English) but Hawaiian culture-based education.

Kahuawaiola Indigenous Teacher Education Program – University of Hawaii Hilo program that prepares teachers to serve in Hawaiian language medium schools, in Hawaiian language and culture programs in English medium schools, and in schools serving students with a strong Hawaiian cultural background.

kahuna – traditional Hawaiian religious practitioners.

kuleana - responsibility

kupuna – (respected) elders, often referred to in these stories as the older generation that had been raised with Hawaiian as a first language

lawena - behavior

lei – necklace woven of flowers.

Leokī – an early online communications tool including email and discussion boards with a Hawaiian language interface started in 1994.

lū'au – Hawaiian party, feast, gathering.

Moena'ehā.org – a culture-based curriculum design and instructional method developed by the University of Hawai'i Hilo and used by teachers of the method as a resource site for posting and sharing Hawaiian curriculum planning materials.

'Ōiwi TV – digital cable television station with programs in Hawaiian.

Papahana Kaiapuni – the Hawaiian Language Immersion Program in the Hawai'i public schools.

Papahana Kula Kaiapuni – Hawaiian Language Immersion Program school.

Pūnana Leo – Hawaiian immersion pre-school program, established prior to the public school HLIP program.

Pūnana Leo o Honolulu – the Hawaiian immersion pre-school in Honolulu.

Ulukau.org – the Hawaiian Digital Library, a free online resource in Hawaiian and English.

Wehewehe.org -- a free online dictionary in Hawaiian and English.

Author Note

D. Lilinoe Yong is a 25-year veteran teacher of the Hawaiian Language Immersion Program and recently obtained her Ph.D in Education, specialization Educational Technology, from the University of Hawai'i Mānoa. She currently teaches at the Hau'ula Elementary School in Honolulu, HI. She can be contacted at Hauula Elementary School, 54-046 Kamehameha Highway, Hauula, HI 96717 (Work); 45-507 Lolii St. Kaneohe, HI 96744 (Home); 808-753-1129; dyong@hawaii.edu.

Ellen S. Hoffman is a professor and department chair of Educational Technology at the University of Hawai'i Mānoa. Her research interests are in online learning, instructional design, qualitative research methods, educational policy, and technology adoption and change.

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