

*Ma Ka Hana Ka 'Ike*  
**Incorporating Video to Enhance Traditional Knowledge  
in a Native Hawaiian Garden**

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**Abstract:** On the island of Moloka'i where hands-on, *'Ike Ku'una* (traditional learning) is still the norm for teaching most cultural knowledge, a group of 15 students in the 4<sup>th</sup> grade participated in a Hawaiian garden project that allowed for the gathering and preserving of information through video. This action research project addressed the following questions:

- What are the benefits or setbacks of incorporating technology into traditionally hands on instructional methods?
- How can video instruction help to preserve the Hawaiian culture in regards to native plants?
- How can we develop an awareness and appreciation in our students for the plants and trees in their environment?

Data for the study were gathered through classroom observations, student work samplings and personal discussions. The project showed how it is possible to enhance traditional learning with modern day technology.

## **Introduction**

*Nana ka maka; hana ka lima.* "Observe with the eyes, work with the hands." *Ma ka hana ka 'ike.* "In working, one learns" (Pukui, 1983). Traditional 'Olelo No'eau (wise sayings) such as these have always been a key to both teaching and learning in Hawaiian culture.

Bringing traditional cultural practices into the curriculum can help teachers understand students and also enhance student learning styles. According to Na Honua Maui Ola Hawaii Guidelines for Culturally Healthy and Responsive Learning Environments (2002), continued learning and practicing of Hawaiian culture is a fundamental prerequisite for nurturing culturally healthy and responsive citizens. Incorporating cultural traditions in meaningful holistic processes to nurture the emotional, physical, mental/intellectual, social and spiritual well being of the learner promotes healthy values.

Take for example the uses of plants found through out the Hawaiian islands that are considered either native, indigenous or endemic: how were these plants utilized in the

past and what benefits do they offer us in today's society? According to Handy and Handy, a comprehensive study done in the 1930's of the plants cultivated by Native Hawaiians showed a wide variety of methods of cultivation as well as the many different uses of these plants. As a means of survival plants were used for food, shelter, clothing or medicine; these native plants fulfilled multiple needs. Today's society is displaced from nature – often times disregarding the benefits of traditional, hands on knowledge for the quickest answer, the fastest results, the easiest product. We have forgone the *'Ike Ku'una* (traditional knowledge) for whatever is cheapest and supplied fastest. We need to re-connect with those botanical elements that helped our fore fathers to not only live but to flourish in an ever-changing society. How can we develop an awareness and appreciation in our students for the plants and trees that are found in their communities? Furthermore, how can we preserve this information as to present it to a wider audience base?

Traditional methods of passing down information from one generation to the next are becoming extinct – sadly, no one has much time any more to sit and “talk story” with kupuna (elders) as a means of receiving knowledge. Gone are the days when children were hanai (reared and raised) by people other than their immediate family solely for the purpose of passing down certain traditions and *'Ike Ku'una*. This may be one reason why much of our traditional knowledge regarding the cultivation, preservation and use of Hawaiian plants is being erased and replaced by modern conveniences. How is a society able to hang on to tradition when the resources are rapidly being depleted? How is a society able to preserve what little knowledge is available and ensure its preservation?

In the Hawaiian society where oral traditions and hands-on instruction set the standards for *'Ike Ku'una*, the implementation of technology provides wide opportunities for documenting and validating the knowledge previously handed down from generation to generation. The purpose of this action research study was to discover how students might use video technologies in a classroom as a way to enhance their learning of traditional knowledge and preserve their cultural heritage.

### **Action Research Methodology**

For society where oral traditions and hands-on instruction set the standards for *'Ike Ku'una*, the implementation of technology provides wide opportunities for documenting and validating the knowledge previously only handed down by word of mouth or direct instruction from generation to generation. The study involved a classroom project on traditional gardening in which students documented their work using video and shared this with their families. The researcher was the teacher in this fourth grade classroom.

**Site.** The action research project that enhances traditional learning in a native Hawaiian garden was conducted at Kualapu'u Public Charter School – Kula Kaiapuni o Kualapu'u Hawaiian Language Immersion Program on the island of Moloka'i, state of Hawaii.

**Population.** The subjects of this research were fifteen (15) fourth grade students in the Hawaiian Language Immersion program who participated in a hands-on gardening project conducted on campus at Kualapu'u School. Typically, most students are of Hawaiian/Part Hawaiian ancestry and have somewhat limited prior knowledge of the plants being grown and utilized in the garden. Students were 9-10 years old; four girls

and eleven boys. Twelve of the 15 students qualified for either free or reduced meals indicating that the majority of these students hail from middle to lower levels of the socio-economic population. All participation was voluntary, with students and their parents signing consent forms approved by the University of Hawaii Committee on Human Subjects.

**Research procedures.** As much as possible, the data collection consisted of observations, student work samples and interviews conducted in the Hawaiian language. Pre and post project interviews were also used to determine student interest, prior knowledge and possible interested learning areas. Also, the students' behavior, reactions, and comments regarding the project were documented either in my written journals or through personal interviews to obtain qualitative data on the effectiveness of this action research project. Following approval from the UH Committee on Human Subjects, the classroom project was carried out in January through April 2009.

After the videos were completed, these were put onto CD/DVDs to be shared with families. Parents were interviewed via phone to get reactions to their child's work.

**Instruments.** Pre and post questionnaires were used to conduct interviews that documented behavior, reactions, and comments of the project. Student work included reflections and observations; information about knowledge gained through implementation of the project and observations. Also included were the researcher's personal observations as well as student observations and reflections.

**Data Analysis.** The data collected from the questionnaires helped to determine best practices for this particular population, what worked and what needs to be improved or replaced. Observations were used to determine student engagement while working in the garden and using the technology to record information.

## Results

**The Lesson.** At the start of the lesson, students had the chance to choose, from a list of plants (14 total), the plant that they wanted to learn about. The 14 listed plants were niu [coconut], la'i [ti leaf], ko [sugarcane], kukui [candlenut], 'ulu [breadfruit], wauke [paper mulberry], 'uala [sweet potato], kalo [taro], 'ohe [bamboo], hala [pandanus], noni [morinda or Indian mulberry], mai'a [banana], hau [hibiscus tiliaceus], ipu [gourd].) One plant choice was doubled to accommodate a larger class number. The list of plants, wauke excluded, were chosen because of the availability of these plants on the island. Wauke, although cultivated locally, is not as common; I may choose not to include this in future projects because of this unless we can cultivate the plant in our own school garden.

Students were given an average of one to two classroom hours per week to conduct online and textbook research on gardening and their plant, with an average of 45 minutes per week to work on projects in the school computer lab. The computer research lasted for a total of 6 weeks. Two hours a week were devoted to the school garden. All other work on their projects was done on the student's own time, as homework or during recess.

The pre project questionnaire was conducted orally in Hawaiian and student responses were documented by teacher.

We decided to utilize iMovie forum to produce our video projects about our gardening because of the students' familiarity with the program and their ability to work independently for a majority of the time on their projects once the initial research was conducted. The students kept journals of their work as written documentation of their research. Again, students were asked to take their work home and have family members help but generally, lack of computer or internet availability as well as lack of other written resources sometimes hindered this process at home.

The students used traditional hula implements (nose flute, 'uli'uli [Hawaiian feathered rattle], pu'ili [bamboo hula implement], ipu [Hawaiian gourd],) to create background music for transitions in their video projects. 'Ukulele music was also recorded for those who preferred a more contemporary sound.

The student video projects were completed in the middle of May and we viewed these as a class a week before school got out. The videos were put onto CDs and families viewed them over the summer break. Follow up interviews, mostly by phone, were conducted with a majority of the parents.

**The Results.** Our iMovie projects were completed in May of 2009 – within class student reviews done the last 2 weeks of school. Considering the time frame, a longer period for gathering information and editing work would have been preferred.

I had expected some difficulty in the research area because of the language barrier; although most of my students are not English illiterate, some are English challenged. This made for issues when having to read information either online or in the books; it also created some tension when trying to translate the information. Having information already translated into Hawaiian may have resulted in a more in depth research project. And although parents were informed and encouraged to help their students with the research, gathering materials, utilizing the plants, the reality was that if they themselves had no prior knowledge or interest about the plant, then the classroom was the only environment where the student's gardening knowledge was encouraged and implemented.

Allowing students to explore working outdoors in a garden provided numerous benefits: a chance for personal connections made with familiar plants either read about or used by family members in the home environment. (Bornhorst, 2005). Within a family unit, best practices are often reserved for specific occasions and certain family members (Pukui, et al., 1972). Students were trying to figure out if their family traditions were rooted in the Hawaiian or some other culture. Students brought prior knowledge of these plants to the classroom but also had many questions about more traditional Hawaiian usage, protocol and technique. These experiences created authentic and meaningful activities that were more effective and have an important place in today's learning environments (Koki, 1998).

Students were encouraged to discuss their familial beliefs (which many times transposed into their own personal beliefs) along with the beliefs of others in our classroom community regarding the uses of these native plants. For a majority of the students, 'Ike Ku'una, traditional knowledge, is the knowledge passed to them from their parents. Many of the students were quick to relate their beliefs to their Hawaiian ancestry, although not all of their traditions were specifically Hawaiian in nature. We saw a vast crossing of cultures in our classroom and the conclusion was that as the different cultures continue to mix and diversify, so too do the traditions of our ancestors become more

woven. We try to maintain a strong hold on those practices that we feel are traditionally relevant. Using video to document our 'Ike Ku'una is one way to insure the fidelity of these traditions that have been passed down to us.

My group of students discussed the use of computers to help conduct their research. The ease with which some students found information about their particular plant was amazing. We discovered that throughout the world, many similar plants to those that we claim as native were used in like fashions. One plant in particular that caught much attention from the students was the wauke, or paper Mulberry. As a traditional staple in the Hawaiian community, wauke was used to make kapa, or bark cloth. And although there are exquisite examples of craftsmanship in the Hawaiian kapa making on view at the Bishop Museum, the current craft of kapa making is not as widespread as in ancient times. The need for kapa as a staple is no longer there, so the growing and gathering of wauke, the entire process of making kapa is almost a lost art on most islands. On Moloka'i specifically, there is only one family who continues to grow, harvest and work wauke to make kapa- and they are cautious to share their knowledge with just anyone. Although local communities can become involved in the preservation of information for future reference (Skouge, 2007), it is truly a labor to gather and to validate information, and then to present it in a way that is most effective yet still true to localized traditional norms.

Students were very enthusiastic about recording themselves in audio, digital and video. They were extremely proud of their digital photography work that they themselves shot and tried to include every single photograph in their project. For those that had to edit video clips, we found that there was way more footage shot than we actually needed but this made picking and choosing difficult for them as well because they believed that every shot was crucial to their final product. Those students who did not choose to do video in this project did indicate that their next project would include video footage. One major problem that we experienced was the mishandling of our camera equipment. All students were sufficiently instructed on the care and management of school equipment, but unfortunately a camera was still irreparably damaged and one of the involved student's parent denied any responsibility citing that no equipment usage agreement had been issued, that the school was responsible for replacing the equipment because the accident happened on school property and that families should not be required to help replace equipment used for required class assignments. This actually turned out to be a great learning experience because directly after this incident, I crafted an equipment usage form that both students and parents were required to sign before we begin a project that clearly outlines my expectations.

Parent feedback was sparse. I had written responses from 2 parents; I did phone interviews with 5 others and actually spoke face to face with 3 parents. I think actually planning a family viewing night to show case our work would have been more successful than sending the DVDs home accompanied by the questionnaires. This would allow for a live question and answer session that could help to strengthen our implementation for future class projects. Extending our resource base to other islands (looking for practitioners outside of Moloka'i) would also benefit our research but admittedly that would probably incur an expense that we cannot afford. What was interesting is that from the interviews, parents were very pleased with their child's work. The general consensus was parents showed remorse because the work that their children put into these projects

was very impressive and how much more effective would their projects have been if the parents had taken a more active role in the research and production.

## **Conclusion**

Allowing for old information to be transported in a new way can enhance student learning and had a greater impact on a large number of subjects (Morehouse, 2008). Technology can build a bridge between the past and the future and help to preserve traditional knowledge.

The Hawaiian proverbs “Ma ka hana ka ‘ike” and “Nana ka maka, hana ka lima” both state that the “doing” is key to learning. My students were given time to research, interview and then decide how they would present their plants themselves. I would like to believe that they gained a more personal insight to the use of these native plants from the cultivation, gathering and preparation, to the final product. Many had to find ample sources outside of our working garden; most tried to have specimens transplanted into our garden. I admire the fact that all of them were willing to go outside of their comfort zones to try and mimic traditional uses of plants. It is through this working knowledge of hands on learning that traditions are created and preserved. The use of technology to help document, record, preserve and share this knowledge is key to the survival of these cultural practices (Iding & Skouge, 2008). With the use of modern technology, educators can help to perpetuate the Hawaiian culture for generations to come.

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