



# Sharing Our Pathways

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A newsletter of the Alaska Rural Systemic Initiative  
Alaska Federation of Natives ♦ University of Alaska ♦ National Science Foundation ♦ Annenberg Rural Challenge

## Traditional Yup'ik Knowledge— Lessons for All of Us

by Esther Ilutsik

What kinds of “experiences” and “practices” do we provide within the school setting that transfers to the real world? Are “experience” and “practice” an important element of life? Can we teach something that we have not experienced or practiced ourselves? If so, how effectively?

A Yup'ik Elder, John Pauk, a well-known *nukalpiaq* (a great hunter), shared the following information during a discussion with other Yup'ik members at a conference in Aleknagik, Alaska in January, 1999. He said, “Experiences and practices are very important parts of the learning process. Without experience and practice you will not learn how to do something better or understand it very well. You

(see “Knowledge” page 8)

PHOTO BY ESTHER ILUTSIK



“Here is the mouse cache . . .” L to R, Elder Henry Alakayak, Sr. of Manokotak, teacher Ina Bouher of Dillingham City Schools, Elder Helen Toyukak of Manokotak.

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# Fall Course Offerings for Teachers in Rural Alaska

by Ray Barnhardt

Just as the new school year brings new learning opportunities to students, so too does it bring new learning opportunities for teachers and those seeking to become teachers. This fall rural teachers and aspiring teachers will have a variety of distance education courses to choose from as they seek ways to upgrade their skills, renew their teaching license, pursue graduate studies or meet the state's Alaska Studies and Multicultural Education requirements. All Alaskan teachers holding a provisional teaching license are required to complete a three-credit course in Alaska Studies and a three-credit course in Multicultural Education within the first two years of teaching to qualify for a standard Type A certificate. The following is a list of some of the courses available through the Center for Distance Education that may be of interest to rural educators.

### Alaska Studies

ANTH 242, *Native Cultures of Alaska*; GEOG 302, *Geography of Alaska*; HIST 115, *Alaska, Land and Its People*; HIST 461, *History of Alaska*.

### Multicultural Education

ANS 461, *Native Ways of Knowing*; ED 610, *Education and Cultural Processes*; CCS/ED 611, *Culture, Cognition and Knowledge Acquisition*; ED 616, *Education and Socio-Economic Change*; ED 631, *Small School Curriculum Design*; ED 660, *Educational Administration in Cultural Perspective*.

### Cross-Cultural Studies

CCS 601, *Documenting Indigenous Knowledge Systems*; CCS 608, *Indigenous Knowledge Systems*.

Enrollment in the above courses may be arranged through the nearest UAF rural campus, or by contacting

the Center for Distance Education (CDE) at (907) 474-5353, email [racde@uaf.edu](mailto:racde@uaf.edu), or by going to the CDE web site at <http://www.dist-ed.uaf.edu>. Those rural residents who are interested in pursuing a program to earn a teaching credential should contact the rural education faculty member at the nearest rural campus, or the Rural Educator Preparation Partnership office at (907) 543-4500. Teacher education programs and courses are available for students with or without a baccalaureate degree. Anyone interested in pursuing a graduate degree by distance education should contact the Center for Cross-Cultural Studies at (907) 474-1902 or email [ffrjb@uaf.edu](mailto:ffrjb@uaf.edu).

In addition to the above courses offered through the UAF campuses, the following distance education courses are available through the

(continued on next page)

# Southeast Region

by Andy Hope

Work on the Cultural Atlas initiative in the Southeast Region began in 1997 during the Indigenous Science Knowledge Base initiative. The Project Jukebox staff at the Oral History Library at the University of Alaska Fairbanks provided technical support. Mary Larsen of the Project Jukebox presented an orientation on designing web sites and web pages in Sitka in late April 1997, concurrent with the annual Alaska Native Rural Education Consortium meeting.

Teachers and students from Chatham, Hoonah and Sitka School districts participated in the training orientation. That spring UAS Juneau liaison, Tom Thornton, hired Jimmy George, Jr. as a student assistant for the Southeast Cultural Atlas project. Jimmy traveled to Fairbanks for web site training at the Oral History Library. Lydia George (Jimmy's mother) an elder of the Angoon Tlingit Raven moiety Deisheetaan clan, came to

Juneau as Elder-in-Residence and lectured Tom Thornton's Ethnopsychology class.

In the summer of 1997, Lydia, Jimmy, Tom and Michael Travis began working on the mapping and sound files for the Angoon Tlingit place names.

On the technical side, this project was proof-of-concept that educational multimedia can be done without resorting to expensive, proprietary development systems. I hope this encourages others to 'get their feet wet' and start experimenting with what can be done using HTML, JavaScript, and other cross-platform web technologies.

Michael D. Travis

Working on the atlas for me was a real eye-opener. The thrust of the AKRSI is to promote Native ways of knowing. So much of this revolves around looking at how information is woven and connected through image and symbol. The Angoon cultural atlas CD-ROM allowed us to explore these links through Tlingit images and symbols—regalia, art, crests, place names, personal names, etc.—as well as through oral history. Lydia and Jimmy George's work with

clan houses helped me see how Angoon Deisheetaan Tlingits connect their regalia and crests to personal and social identity and how the threads of Tlingit identity always lead back to the land. The multimedia format also allowed us to do this with Native voices and to connect Tlingit traditions to modern science and geography in ways that are just not possible in conventional expository writing. When we showed it to teachers in Angoon, they immediately saw potential applications in their classrooms as well as ways to extend the links to other areas of the curricula and Native culture. All this is very exciting and, I think, good for education, heritage preservation and enhancement, and cross-cultural communication and collaboration.

Tom Thornton

Associate Prof. of Anthropology  
University of Alaska Southeast

Work on the atlas project will continue. The participants at the August 9–13, 1999 Indigenous Curriculum Institute in Sitka will continue work on the Klukwan and Kake atlas projects and observe a presentation of the Sitka Tlingit place name project. Institute participants will work on integrating other curricula, i.e. the bioregional, thematic Axe Handle Academy and the One Reel Salmon curriculum project.

Many individuals and organizations have contributed to the development of the cultural atlas project: University of Alaska Southeast, Chatham School District, University of Alaska Fairbanks, Oral History Library, the Southeast Native Subsistence Commission, the Angoon Community Association, the Chilkat Indian Village, the Organized Village of Kake, Interrain Pacific and Sealaska Heritage Foundation. ✨

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Alaska Staff Development Network (ASDN) under arrangements with Alaska Pacific University: *Alaska Alive* (which meets the state Alaska Studies requirement) and *Creating Culturally Responsive Schools: A Standards-based Approach* (which meets the state multicultural education requirement.) A new multicultural education course aimed at administrators is also under development by ASDN. Information regarding enrollment in these courses can be obtained from the Alaska Staff Development Network at (907) 364-3801, email asdn@ptialaska.net, or at the ASDN web site at <http://www.asdn.schoolzone.net/asdn>.

Welcome to the last school year of the 20<sup>th</sup> century and the first of the new millennium. ✨



# Yup'ik Region

## KuC 1999 Graduation Address

by Cecilia Martz

**T**eggnerulriani—quyana tailuci maavet ukut ilagaryarturluki graduate-alriit. Quyanaqtuuci tangernaugaqavci waten quyurtaqamta.

Graduates, Regent Croft, Dean Gabrielli, faculty, staff, students, parents, friends—especially those of you who traveled to Bethel to be part of our graduation ceremony—welcome and *quyana cakneq* for coming.

For you, the graduates, this is a special day. You will remember this day, April 30, 1999, as a significant experience in your lives. It marks what you have accomplished and completed up to this time in your life, but it does not mean that you quit accomplishing and completing other objectives you have for tomorrow, the next day, next year and five years from now. Days such as this one elicit recollections of other significant experiences from our past.

Our past experiences have made us who we are today, shaping how we think, what values we have, how we treat other people and how we view the world around us.

Certain people figure prominently in our lives—people who have had a tremendous influence on our lives—and we give those people a very special place in our hearts. One person who helped shape my perspective of other people, religions, races, regions and anything different, was a religion teacher I had when I was going to school at St. Mary's High School. We had nuns (sisters), priests, brothers and later, lay volunteers as faculty and support people. I was in junior high and we had been studying about

heaven and hell—places where we go after we die. I had been told that only Catholics would go to heaven. That really bothered me for years because it went against what my dad and other relatives had taught me about judging other people. Anyway, I raised my hand (we had to raise our hands to be recognized and once recognized, we had to stand up to ask our question or say what we had to say). The nun (her name was Mother John), looked at me with a martyr's look on her face. She was probably thinking, "Oh, dear, not her again!" but she called my name. So I stood up and quickly said, "Mother, if only Catholics go to heaven, I don't want to go there." I could hear the other students' loud intake of breath and I could also imagine them thinking, "Surely, she is going to be excommunicated and she certainly is going to hell." Well, Mother John looked at me and the other students very thoughtfully and said, "Cecilia, no, that is not true." The other students again did their audible intake of breath . . . surely Mother John was also going to hell. She continued: "There are many religions in the world. All people, whether they are Baptists,

Methodists, Zen Buddhists or whatever, will go to heaven if they live good lives according to how their religion and their cultures dictate." I said, "Good, then I'll go to heaven." I will never forget the lesson in tolerance she taught me. She also taught me to do my best in everything that I do—washing dishes, writing a course outline, cutting fish, making a presentation or giving a speech.

One other very influential person in my life and one who has the most space in my heart, next to my husband and children, is my father, who passed away 23 years ago. He always knew the appropriate times to say to me what he felt I needed to know. He showed me and other young people proper conduct by his actions and by pointing out the actions of others.

“**Our past experiences have made us who we are today, shaping how we think, what values we have, how we treat other people and how we view the world around us.**”

One morning at camp, when I woke up, he said to me, "Tacung, (a special name just for me from him) *anqaa* (go outside)." So I went outside and stayed out there for a while and then went back in the tent. I had no idea why he wanted me to go out. When I went back in, I had my tea with milk and fry bread. After a while, my dad asked, "Which direction is the wind blowing from?" Had I checked where the wind was blowing from? Of course not. I had just gone out like he told me to and came back in. Some time later, he again asked me to go out after I woke up in the morning. So, again I went out, and what did I make sure I

did? I checked where the wind was blowing from. I went back in and had my tea and fry bread. A while later, my dad asked, “What do the clouds look like?” Oh dear, did I look at the clouds? No, I had not looked at the clouds.

Still later, he again asked me to go out in the morning before breakfast. This time what did I make sure I did? I made sure of the wind direction, made sure I could describe what the clouds looked like and I went further. I looked to see if the river tide was up or down, if the mountains looked high or low, if there was a blue reflection where the sea was, what birds were flying, what animal sounds I heard. I made sure I could answer any question my dad asked. After a while, I went in and had my tea and bread, at the same time waiting for “the question.” While I was eating, my dad said, “When the clouds are stretched, the wind will pick up that day. If you see shimmering on the horizon, the ground is pushing the heat from the sun upwards. When you see what looks like fog rising from the lakes and ponds, their heat temperature is balancing with the air’s.”

From that day on he started teaching me about the weather in different seasons because he knew I had learned to observe my environment. To this day, I still take careful note of my surroundings and can tell, generally, what the weather is going to be like each day.

My dad was giving me scientific knowledge about our environment. In the same way, he taught me social studies by alerting me to different people’s behavior. He taught me to read and write my own language. He taught me environmental biology and he kept teaching me until the time came for him to leave us. He also approved of Mike, who later became my husband.

He also gave to me what has become one of the cornerstones of my

personal values, a solid foundation for who I am. When I started leaving for school at St. Mary’s, one of those times, he said to me, “Tacung, learn as much as you can about the Kass’aqa, they are here to stay. Their numbers will increase over time. *Taugaam angurrluqapiareq qaneryaraput, cayaraput-llu nalluyaguteryaqnaki.*”

*Angurrluk* is a very strong word which translates roughly to “Never, never, no matter what!” or as Nita Rearden said, “Ever, ever, ever, not, not, not!” It’s that strong of a word. My father said, “Never, never, no matter what, are you to forget our language, traditions, ways of doing things.” (The English language sometimes is very inadequate to convey equivalent meanings.) So I follow that strong directive to this day to the best of my ability.

Many of us who are following that directive in our lives and our work, especially people of my age, are starting to retire. Those of you who follow us must take up the responsibility to ensure that our language and culture continues to thrive. Our Elders have

repeatedly begged us to do so. The Yukon/Kuskokwim Delta is the heart and soul of the Yup’ik language and culture. It is imperative that you remain vigilant and outspoken so that agencies, especially the educational institutions, will continue to show us, the people they are here to serve, that the continuation of our language and culture remains one of their highest priorities. This is a heavy responsibility that should never be ignored.

There are many more people who have taught me and shaped me to what I am and affected how I think, and I thank those people from the bottom of my heart and soul. As you reflect on your own lives, think of those people who have influenced you and thank the Creator for them, and if you have the opportunity, thank them in person.

So our lives go on. We keep on accomplishing and completing. We keep on learning. We keep on believing. We keep on hoping. We keep on being sincere. We keep on thanking. Most of all, we keep on loving one another. ✨

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## Yup'ik Region, con't.

### Newhalen Cultural Heritage and Video-editing Class

by Michael Roberts

This past school year, 1998–99, with a grant by the National Science Foundation through the Alaska Federation of Natives and the Newhalen Tribal Council, the high school seniors of Newhalen have been involved in the Newhalen Cultural Heritage Project. The idea was to integrate the community and culture into the curriculum. Two classes were created and cultural heritage and video-editing curriculums were constructed. The components involved archaeological fieldwork, collection of oral histories and pictorial histories. The culmination was the creation of a video production depicting the three components that served as the summary report for the grant to AFN. The report deadline was January 31, 1999. Video and computer equipment for editing was purchased for the class through Newhalen Tribal Council.

On September 14, a group of U.S. Park Service archaeologists Dale Vinson, Becky Saleeby and Martha Olympic Crow and an archaeologist and a former LPSD student of mine at Igiugig, arrived to carry out four weeks of archaeological fieldwork. It was not an excavation but an examination of an existing disturbance caused in an ancient site by road building. Mapping, radio carbon dating, soil samples, stratigraphy and surveying for other local sites were among some of the activities. The senior class of Newhalen School provided the work force and were taught techniques that lead to the designation of the site on a listed state registry. In the application process, the students were able to officially name and number the site. A concerted effort by the

village and the students is leading to preservation of this site. As the students did the work, they also video-

“ *Students learned how to capture digital video to computers and edit using a digital camcorder and Firewire* ”

recorded the process using a digital camcorder provided by the grant money.

When the weather no longer permitted fieldwork, we turned to video editing. The archaeological portion of

the video was constructed first. Students learned how to capture digital video to computers and edit using a digital camcorder and Firewire (IEEE 1394). All of the special effects in the video were created using computers. The narrative for this portion was almost completely written by the students. It describes the process they took part in. The narration matches video clips which they chose as appropriate from hours upon hours of videotape. The completed video was then returned to videotape (VHS, SVHS, 8mm and DV) from the computer. They also learned how to burn CDs of the movie for use on Macintosh and Wintel PCs.

In the second portion of the video, there was significant emphasis from the Newhalen Tribal Council on oral histories provided by village Elders.

“ *... there was significant emphasis from the Newhalen Tribal Council on oral histories provided by village Elders.* ”

In the late fall, Elders from surrounding villages were flown in for a potlatch and roundtable story-telling. This was all recorded on video. On many of the oral histories, the students acted out or added portions of the stories which were superimposed again using various computer editing techniques to enhance the story. In stories told in Yup'ik, translation was provided by Father David and Gladys Askoak.

The third part of the video was a collection of stills from the Iliamna Lake area. The village of Igiugig was of great help in allowing the use of a fine collection. John Branson of the U.S. Park Service was also of great help. Part of the video was actually a

captured slideshow presentation by John.

After the credits on this movie, the students inserted a bloopers section that is revealing. It shows amongst other things, the recording of some of the narratives on the movie. It also shows the amount of fun we had completing the project.

“ *The third part of the video was a collection of stills from the Iliamna Lake area.* ”

Finally, the video was duplicated for sale. The Newhalen Cultural Heritage Project, *A Culture In Motion*, can be purchased through the Newhalen Tribal Council for \$15.00 per copy. Contact Joanne Wassillie, Village Administrator, Newhalen Tribal Council, P.O. Box 207, Newhalen, AK 99606. Phone: (907) 571-1410, fax: (907) 571-1537. The proceeds will go into a fund to continue the partnerships, school curriculum and most importantly, collection, documentation and preservation of cultural materials and archaeological sites.

I don't think you can watch the video without realizing the educational cross-curricular value the project contained. The elements of relevance, choice and creativity made it more meaningful than the traditional classroom. The school/community partnership involved in this project greatly enhanced the existing relations with the village and the classroom, school and Lake and Peninsula School District. It has provided cooperation and a better channel of communication. I have never been involved in a project that has been more fulfilling. ✨

## Subsistence and Contaminants

by Tauni Rodgers, Jeff Dickson, Molly Patton and Larry Duffy

Several years ago Elders from the Yukon-Kuskokwim (Y-K) drainages wondered if metals such as mercury posed a health threat to Delta residents. They knew mercury could accumulate in bottom feeding fish such as lush fish or predatory fish like pike. Mercury has always been present in the environment. Mercury can be found in the environment from (1) global distribution of industrial wastes through the atmosphere and (2) point sources, such as erosion of geological deposits and mining activity.

Senka Paul, a former University of Alaska Fairbanks (UAF) student who works as a grant writer for Tribal Services, obtained a small grant from the National Institute of Health through the University of Washington Ecogenetics Center to begin baseline measurements. Collection sites for freshwater fish were at fishing and ice-fishing sites in the Y-K rivers with subsistence users donating fish for the study. The collection of fish was managed by the Y-K Health Corporation Office of Environmental Health and Engineering (OEHE).

Results of this preliminary study have given state and federal officials more information to design future studies. Of the sixty-six fish sampled, sixteen (mostly pike) were found above the 0.2 parts per million (ppm) level of concern set by the Environmental Protection Agency (EPA). But these results are below the Food and Drug Administration (FDA) standards of 1.0 ppm and lower than most mercury levels of fish found in the lower 48 states. It's believed a diet consisting of large fish (greater than 20 inches) eaten twice a week is not a cause for concern. The main concern of neuroscientists and toxicologists for the levels of mercury observed in a few of the fish in this study is on the develop-

ment of a healthy human fetus. The most sensitive time is during the first three months of pregnancy (first trimester). Pregnant women should not worry about eating pike. At this time it is not recommended eating large pike seven days a week.

It is not known how much mercury is passed on to humans. Physicians within the Y-K Health Corporation are working with the CDC in Atlanta, Georgia to address this issue. It should be noted that there is likely a positive effect from eating fish oils. Studies have shown fish oils block the uptake of mercury. There are many interactions between diet and mercury absorption, with fish protein, Vitamin E and Vitamin C possibly modifying the toxicity.

About the Authors

Tauni Rodgers is the lab supervisor for OEHE in Bethel, Alaska. Larry Duffy coordinates the Partners-in-Science program for the Alaska Rural Systemic Initiative and is a member of UAF's Department of Chemistry and Biochemistry. Molly Patton is an Environmental Health Specialist with Tanana Chiefs Conference in Fairbanks. Jeff Dickson is a Public Health Service (PHS) sanitarian working for the Yukon-Kuskokwim Health Corporation, OEHE in Bethel. ✨





## Yup'ik Region, con't.

*(Knowledge, continued from front page)*

will not be able to teach and share your information with someone unless you yourself experience and practice it.” He shared that observation after many years of hunting while he was looking back at some of the hunting implements he had made in his earlier years. At the time, he thought they were good. But examining them now, he found them inferior and imperfect. His many years of experience and practice were not reflected in this earlier work. He emphasized that experience and practice bring about an understanding—an educated understanding—that brings other experiences and practices together.

Why is it that when we, the Native people, bring up the idea of teaching the local indigenous culture in the school, we still hear comments like, “They should just teach it at home if they think it is so important.” Many of the things we want our children to learn we, as Native parents, haven’t learned. So how can we teach the cultural knowledge that we feel is important to our children when we have not been taught these things ourselves?

Many educators or even community members do not realize that we have a generation of parents who have not had the opportunity to engage in activities that would make their culture more meaningful to them. They sense that it is important and know that it is something that will help their own children gain a better understanding of who they are. They see it and hear about it, but since they have not experienced and practiced it themselves, they are not able to pass it on.

Therefore we, as educators at the university and public school levels,

have an added responsibility—the responsibility of educating those who missed out on these traditional learning opportunities. Those of us who have had the opportunities to be educated by our Yup’ik Elders need to pass the information on. We need to explore ways we can share this information with those who want it, but do not have the financial capacity to pay for workshops or university-sponsored classes. Many people do not have the financial capacity to pay the tuition costs or participate in a program that will once again educate them in their own cultural practices, so we need to seek other avenues.

### Traditional Yup’ik Learning

Let’s take a look at a traditional Yup’ik learning situation. In the past, the Yup’ik people learned a lot by participating and observing. This does not imply passive observing as defined in the Webster Dictionary (to watch attentively), but rather immersing yourself in the activity. This could be with immediate family or extended family members or at the community level. Consider the following scenarios:

#### Scene 1

A young girl plays near her mother as her mother is making a squirrel parka. She is playing with her dolls. Her mother gives her some scraps of fur to make a simple piece of clothing for her doll. She tries her hand at sewing with her mother showing her how to thread, to make a knot and doing the first few stitches for her as she observes (this time the Webster definition is

valid.) Then she finishes what her mother started and has her help with tying the knot.

#### Scene 2

The young girl is outside playing with a few older girls as well as girls her own age. They are all seated in a circle each with a *yaruin* (a story knife) and are taking turns telling a story. She watches as the other girls draw a squirrel parka detailing all the parts of the parka, sharing the stories and meaning behind each design and pattern. She also draws as she watches and listens. When it is her turn, she is helped by the other girls.

#### Scene 3

The young girl is with her mother and father at a gathering and observes and listens. She notices that her mother and father greet certain people as relatives. She notices that the parkas that they wear are all similar. One part of the parka stands out as the important symbol that signifies relationships. She also notices that those with the most similar designs are invited to the home as overnight guests.

#### Scene 4

The young girl is a little older and again sits with her mother as she sews a parka. The girl indicates to her mother that she would like to make a small parka for her doll detailing some of the family patterns. The mother shares with her the most significant part of the parka design, then shows her how to make it and has her make one for her doll.

These scenes are played out over-and-over again until the young girl has reached marriageable age. She has all this knowledge, experience and practice which she brings to her early years of marriage and now, with her own family, continues the cycle.



## Education and Western Influence

To what degree has traditional Yup'ik education been influenced by the Western world? Let's take a look at the following scenarios:

### Scene 1

A child is playing at home near her mother. Her mother is working on a parka. But the child and mother are both distracted by the television. The child is playing with a Barbie doll or other manufactured doll. This doll doesn't need home-made clothes. All the clothes are pre-made.

### Scene 2

The child is playing with other children at a preschool. They have puzzles and other toys they are playing with. They are acting out roles they see within the community: going to church, going to a birthday party or even going shopping at the local store. A teacher is sharing stories, showing the children different social skills. She has the children participate in art activities and reinforces certain types of behaviors. The teacher models the behaviors that she expects of the children.

### Scene 3

The child is with her mother and father at a gathering. She observes and listens. She notices that her mother and father greet certain people as relatives. But all the people at this gathering are dressed in Western clothing. She makes an assumption that certain people are related to her based only on how her parents greet these people.

### Scene 4

As the child gets older, she enrolls in the local school. Her whole day and many evenings are spent at

the school. She rarely spends time at home and when she is at home, she's doing homework or watching television.

Western education and influence have taken over the responsibility for raising these children. It is no longer the mothers, parents and even peers sharing and teaching each other. It has been replaced by another method of learning. No wonder there is a "gap" between the parents and the children. Neither of the participants knows what the other is doing. The parents want their children to learn and understand certain things from their own culture, but the school is not teaching these skills.

Let's take my own personal experiences as an example. I grew up and was educated within the school setting. My parents knew that education was important for survival, but they had little idea what was being taught in school—only a vague understanding. They knew that reading, writing and mathematics were all very important. They assumed that some of the things they were doing at home were being taught at school, such as the art of cooking and preparing food. But little did they know that the food preparation that was taught had very little to do with how food was prepared in the home.

My father first came to that realization when my mother was not home to prepare food he caught. I was home when he came back from hunting with a couple of ducks in hand and asked me to prepare them for the next meal. I had, as a young girl before I started school, observed my mother and tried my hand at plucking birds, so that part was easy. But when it came to cutting up the bird, I had no prior knowledge. I may have observed, but did not have the opportunity to experience or practice it. So there I was, afraid to admit my ignorance to my father, I cut up this poor duck. I literally chopped it up to make

some soup and threw the rest away. When the soup was done, my father came in to dish himself up, while I quickly made myself scarce, but within earshot. I heard him mutter under his breath, "Oh my God! What do they teach in school? This poor daughter of mine does not even know how to properly cut up a simple little bird. How will this poor creature live. She has no respect for this poor bird."

## Documenting Traditional Yup'ik Knowledge

Interviewing is the most popular way of collecting and documenting traditional Yup'ik knowledge. The interview process has many different variations. For example, public school teachers have students interview Elders on subject areas that they are interested in. This process is usually teacher-directed and, most often, the information gathered is limited due to barriers in communication. University students also collect information by interviews and these again are usually teacher-directed. Depending on the interest and background of the students participating in these sessions, they usually contain more or less detailed information. There are also research groups that are comprised of Elders, professional educators and paraprofessionals who meet and gather together to document traditional knowledge. They use a form of interviewing where Elders and educators bounce information off one another. This method of interviewing brings about more detailed information which is further discussed in depth by the participants. But even this process does not take into consideration the type of information that would be collected and documented if the participants were able to actually experience it.

*(continued on next page)*



*“This is how to pull back the earth (ground).” L to R Elder Henry Alakayuk, Sr. of Manokotak, Elder Helen Toyukuk of Manokotak, and UAF student assistant Virginia Andrew of Aleknajik.*

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For example, there is an art to gathering the edible roots from bush mice. You hear about how mouse food is gathered. You learn that it is gathered during a certain part of a season. You may even have the opportunity to see it, but you have not had the opportunity to engage in this activity to see how it is done. It is like looking into another world, because when questions are asked of the Elders, they share what they know, but in many cases they forget to share significant details because they assume everyone already knows those things.

On one such occasion, we interviewed and recorded as much information as we could about edible mouse food from our Elders: what the names of the edible roots were, what they might taste like, the process used in preparing them for meals and even having the Elders attempt to draw what the roots and tubers looked like. It was then decided that we should go out and gather these edible roots.

During the field trip we, the students, observed the Elders in action. They knew exactly where to go and

we followed. We observed as they looked for a certain area with the types of plants that they knew the mice would cache. Then they would look into the grass. When questioned, they said, “Oh, we’re looking for tell-tale signs of mice. You see they have little roads in the grass.” So we, the learners, looked and to our amazement saw all these little highways. Then they started taking little steps and moving up and down. When questioned, they said, “Oh, we are feeling for a spongy area. If it feels spongy it might be the mouse nest or it might be the food cache.” Then, when a mouse cache was found, the tools were taken out: an *uluq*, a bag and even some bits of dried fish and crackers. The nest had to be cut in a special way so that the Elders would be able leave it as naturally as they had found it. After the edible roots were taken they were replaced with dried fish and cracker crumbs and thanks was given. In this way they shared more detailed information that was not initially evident during the interviews.

In experiencing and practicing the gathering of edible mouse food, we

were able to document a great deal more information than we would have if we had just relied on the interviews. We, as educators, had acquired information that was validated by our own experience and practice. When learning passively from our Elders, we are able to bring only limited information and insights back into the classroom, but through participation in the actual field activity, the information takes on much greater validity and meaning.

## Sharing Yup’ik Knowledge

As teachers and educators, we are responsible for sharing the information we gather with students who want to learn more about their culture, as well as with other individuals who are within the present school system and community. What avenues are available to share such information so that others may also benefit from this knowledge?

There are many new materials being developed for integration into the school environment that address the approaches to the teaching described above. Specific ideas and suggestions are outlined in the *Alaska Standards for Culturally Responsive Schools*, available through the Alaska Native Knowledge Network/Alaska Rural Systemic Initiative (AKRSI). One of the initiatives of the AKRSI involves implementing “Native Ways of Knowing” into school teaching practices, including documenting traditional cultural knowledge and incorporating it into the curriculum using experiential methods. As a result of this initiative, many new materials are now being developed and integrated into the regular classroom. Schools are beginning the process of becoming grounded within the local culture.

We, as Elders, educators and teachers, are very optimistic that the educational environment within the



PHOTO BY ESTHER LUTISK



*“Here is the mouse trail.”*

Western schools will change so that learning will fit the needs of the students; so that the teachers coming into the area will have an understanding of and sensitivity to the local culture and so that we will begin to see some positive changes for our people and communities. One area that has been overlooked, however, is the education of the generation who are presently the parents—about their own culture and traditional roles and responsibilities in child-rearing. This is especially critical for those who had to leave home to attend a boarding school—how do we begin to bring their heritage back to them?

## Collecting Knowledge Into Action

The Ciulistet Research Association, working through the Bristol Bay Campus in Dillingham, has begun to address these issues and concerns. The Native educators who make up the Ciulistet Research Association come from the two main districts within the Bristol Bay area: Dillingham City Schools and Southwest Region Schools. It was decided that one of the ways to begin to address these concerns and issues was to present public workshops. This would serve as a

means of educating the public without cost to the participants. We would not only serve the needs of our people, but also people from other cultural groups. It was also decided that we would seek funding from the Alaska State Council on the Arts, which funds artist and educational workshops. Money was obtained to pay honorariums for two Elders to assist us with the workshop.

The community workshop, which is just getting underway, is designed

to model, as close as possible, the Ciulistet method of collecting information—that is bringing together Elders with professional educators and inviting the children and people from the general public to participate. To attract educators, the workshop is being offered as a university-level course through the Bristol Bay Campus. By involving the educators, we hope to narrow the communication gap between the school and community. All of this is to be reinforced through opportunities for firsthand experience and practice in the knowledge and skills that are being shared—out where the mice make the highways in tundra.

Our vision is that the information presented at the workshop will generate interest among the parents, community members and teachers, thus creating a domino effect in education—teachers teaching the ideas and themes in the classroom, while the parents and community members share the information with their own children as well as others in the community.

It truly is an exciting time in education! ✨

PHOTO BY ESTHER LUTISK



*“Pull back the grass to get to the mouse cache.”*





## Iñupiaq Region: Nalukatagvik—A Gathering for Celebration and Blanket Toss for a Successful Whaling Season

by Elmer Jackson

I asked a friend, “How long have the whaling celebrations been going on?” She replied “From time immemorial.” When the whaling captains and the crews are successful in harvesting whales, their labor of love and giving is celebrated. Before the invention of modern means of transportation, runners were sent as messengers, inviting other communities to the celebration. The gifts from the whale are shared with others.

“When the whaling captains and the crews are successful in harvesting whales, their labor of love and giving is celebrated.”

The whaling captains and the crews host their Nalukatagvik in June. Prior to the celebration, they prepare *mikigaaq* and *maktak*. The strips of whale meat and *maktak* are aged and served at the feast. The *maktak*, flippers and tail are stored in the *sigluaq*, where they are preserved by freezing. The whale meat is frozen as *quaq*. Fresh frozen tongue and meat are cooked by boiling and then served. Other parts of the whale that are edible are also prepared for the feast.

The celebration is opened with a prayer of thanksgiving. The whaling crew and servers hold hands to give thanks to the Creator. The gathering of people are warmly welcomed. The first course is a delicious soup, bread, crackers and doughnuts. A complete course is served. Elementary school-age children serve coffee, tea, sugar

and cream. After the meal, the Nalukatagvik begins. Many young people and adults take turns on the blanket toss. Many hold bags of candy, furs, cloth (material), and when they are suspended in the air they toss them to the crowd. After the Nalukatagvik, another part of the whale is shared. Whenever a course is served, those who are not present at the celebration are also given food. For instance, *maktak*, *avatraq* or cut parts of the flippers are shared with everyone. Many return home with gifts from the celebration including its delicacies. After a whole day of feasting and blanket tossing, the celebration ends in the evening with Iñupiaq dancing.

Living the subsistence way of life, incorporating the Iñupiat values of sharing and respect of others and respect for animals and the environ-

ment are elements of the culture—these are sacred to the Iñupiat.

Iñupiat in other coastal communities also celebrate and give thanks

“Living the subsistence way of life, incorporating the Iñupiat values of sharing and respect of others and respect for animals and the environment are elements of the culture—these are sacred to the Iñupiat.”

after a successful whaling season. Many land and sea mammals, fowl, fish, berries and edible and medicinal plants are harvested from the land and waters. A successful harvest of food ensures the survival of the Iñupiat heritage. Subsistence is the Iñupiat indigenous right. Our forefathers protected the land and waters—that is why we are still able to gather and harvest the fruits of the land. ✨





## AISES Corner (American Indian Science and Engineering Society)

Village Science/AISES Initiative has expanded over four regions. Iñupiat and Athabascan students attended the Fairbanks AISES Science Camp held in July at Howard Luke's Gaalee'ya Spirit Camp on the Tanana River; Kodiak students attended AISES Science Camp in Afognak, also in July; Aleut students attended camp in August in St. George; and Tlingit students attended camp at Dog Point in Sitka, girls in July and boys in August.

The Fairbanks AISES Science Camp operated for the third summer with 19 middle school students from Anchorage, Buckland, Barrow, Beaver, Arctic Village, Fort Yukon, Galena, Kotzebue, Minto, Manley Hot Springs and Fairbanks. Our staff included five Elders: Howard Luke, Margaret Tritt, Elizabeth Fleagle, Jonathan David and Fred Alexander; five Teachers: Rita O'Brien, George Olanna, Maria Reyes, Todd Kelsey and Claudette Bradley; four resident advisors: Dean Meili, Marilyn Woods, Adrienne Benally and Donna Foray; and one Artist-in-Resident: Travis Cole.

The Elders talked to students about the old days, told stories, familiarized students with Athabascan language and cultural ways and helped students make crafts. Margaret Tritt of Arctic Village worked with students to tan eight caribou skins. Jonathan David of Minto took students into the forest to find cottonwood, which they needed to carve spoons and little canoes and boats. Fred Alexander gave Athabascan language lessons, told stories of the old ways and had students make a fish trap. Elizabeth Fleagle of Manley Hot Springs had students making beautiful beaded tops for moccasins or gloves. Howard Luke taught the students to respect Elders, the camp and each other.

Teachers worked hard with students. Rita O'Brien, a science teacher at Ryan Middle School in Fairbanks, developed a canoe series of lessons which she extended into a lesson on vectors. She took students into the forest to collect spruce roots. All students worked to strip the bark from the roots and to split and dye the roots in preparation for sewing the birch bark canoe pattern pieces. When the canoes were finished, the students studied vectors under Rita's well-

*by Claudette Bradley-Kawagley*

planned lecture and hands-on collaborative experiment. Students timed and measured the distance of a floating orange in the Tanana River to understand the forces on a canoe traveling in the Tanana.

Todd Kelsey is an IBM employee of Rochester, Minnesota. He was responsible for the donation of six Thinkpads™ and a color printer used at the camp by the students to analyze data collected and to develop display boards for science projects. This summer was Todd's second year at the camp. He came to the camp for one week, set up the computer lab in the Elder's Hall, helped students use the computers and taught math and science lessons.

George Olanna, a Native from Shismaref, has taught K-12 for over 20 years. George is passionately interested in science. He has a special interest in the Northern Lights and

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*Elder Jonathan David demonstrates wood carving to resident advisor Dean Meili.*

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arranged a field trip with Neal Brown, a former UAF physics professor, to Poker Flats, the rocket launch facility for the University used to study the Northern Lights. George took care of the solar panel battery generators which supplied the electricity to our computers. He worked with Todd during the first week and inherited Todd's classes during the second week.

Maria Reyes is an assistant professor of education at UAF. She assisted students in finding research information on their science projects using the Internet at Rasmusen Library on the UAF campus. She also counseled students on interviewing the Elders. Students were required to write at least five interview questions about their project. The information gathered from the Elders was added to the background information along with the information found on the Internet. Marie had students write a bibliography of information gathered from the literature, Elders and experts they used.

Claudette Bradley is an associate professor of education at UAF. She was site coordinator, but also worked with students on projects. She helped students use software to create spreadsheets for recording data and also charts and graphs for data collected.

All five teachers worked collaboratively with each other and with students to develop a research question, hypothesis and a research method. Support staff, Dixie Dayo and DeAnn Moore, gathered research materials for the students. Resident advisors accompanied students who needed to attend the Department of Natural Resources, Fish and Game and the UAF museum and library. Professor Larry Duffy, chairman of the Bio Chemistry Department, sent chemistry supplies that included hydrochloric acid, litmus paper, test tubes and graduated cylinders.

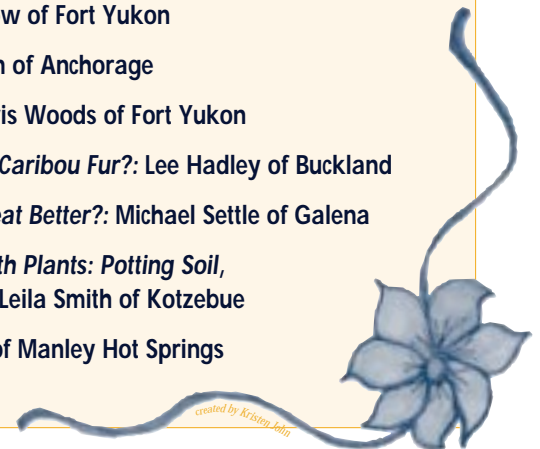
Some students finished their projects and will continue to do more library research and write a report for their project in preparation for the science fairs to be held during the school year. Other students will have

to continue their data collection in their village and also write a report. All students had their display board ready for viewing at the potlatch held on the last full day of the camp. All students explained their science projects to the staff and guest attending the potlatch. See below for a list of projects and students.



## Fairbanks AISES Camp Projects

- ◆ *Do Elders Estimate (Number of Beads for Beaded Design) Better?* Kristen John of Fort Yukon
- ◆ *Birds in Howard Luke Camp:* Liz Yatlin of Beaver
- ◆ *How to Soothe Mosquito Bites, Willow vs. Ammonia:* Crystal Gross of Barrow
- ◆ *Golden Ratio:* Tamara Thomas of Fort Yukon
- ◆ *Has the Salmon Population Decreased in 20 Years?:* Pat Campbell of Fairbanks
- ◆ *Can We Determine Age of a Bull Moose by Counting the Points on the Antlers?* Gerald John of Arctic Village
- ◆ *Soil Erosion:* Matthew Thurmond of Galena
- ◆ *Color Blindness in Cats:* Jordan Baker of Minto
- ◆ *What Medicine Plants Will Cure the Common Cold?:* Agnes Kallman of Anchorage
- ◆ *Spruce Beetles:* Kristopher John of Fort Yukon
- ◆ *Acid Rain:* Eilene Frank of Minto
- ◆ *Evaporation of Water:* Matthew Shewfelt of Fort Yukon
- ◆ *Golden Ratio:* Roseanne Cadzow of Fort Yukon
- ◆ *Heat Waves:* Charlene Kallman of Anchorage
- ◆ *Log Cabin Demonstration:* Travis Woods of Fort Yukon
- ◆ *Which is Warmer: Wolf Fur or Caribou Fur?:* Lee Hadley of Buckland
- ◆ *Does Spruce or Birch Retain Heat Better?:* Michael Settle of Galena
- ◆ *Which Soil is Most Effective With Plants: Potting Soil, Riverbank Soil or Forest Soil?:* Leila Smith of Kotzebue
- ◆ *Medicine Plants:* Kobi Grutler of Manley Hot Springs







*Students and instructors are hard at work in the computer lab in the Elders' Hall. L to R: Jordan Baker, Claudette Bradley-Kawagley, Lee Hadley and George Olanna.*

The plan was to have each project scientifically sound and incorporate Elders' knowledge in the background information. In addition, some students asked Elders to identify one of more of the variables they were to test. For example, Liz Yatlin asked the Elders to name the birds that fly around Howard Luke camp before she consulted a bird atlas to identify the birds she was observing. Crystal Gross asked the Elders what remedy they would use to soothe mosquito bites and the Elders said they would use ground up willow leaves. She compared that remedy with a commercial variety.

Brad Wyiouanna of Shishmaref is a "High Kick" World Eskimo-Indian Olympics' (WEIO) athlete. He visited our camp one evening and gave a WEIO game demonstration for the students. He invited students to try some of the events and everyone enjoyed participating. This prepared the students for attending WEIO on the last evening, where students watched Brad compete for the gold medal and observed the dynamic blanket-toss event.

Travis Cole of Alakaket was the artist-in-residence. He writes poetry, draws realistic sketches of trees, ani-

mals and nature scenes and dances, sings and drums Athabascan songs. He is a powerful leader and role model for the students. The students look forward to his Athabascan dancing sessions where he taught the proper Native way to sing and dance. Our students learned well and are well prepared to dance at the Fairbanks AISES Science Fair.

Travis also worked as a resident advisor. Four other resident advisors were Dean Meili of Palmer, Marilyn Woods of Manley Hot Springs, Adrienne Benally of Boulder, Colorado and Donna Foray of Boulder, Colorado. The 19 students were divided into five family groups with one resident advisor as head of household. Each night the family groups met to talk and write in their journals. Every day each family had one of five major chores to take care of: collecting water, collecting firewood, washing dishes, cleaning the latrines or cleaning the camp grounds.

During field trips each resident advisor was responsible for their family group. They had to stick together and watch out for one another. The field trips included attending WEIO, the movie theater, a tour through the UAF Large Animal Farm, a day trip to

Poker Flats and a visit to the UAF museum.

For recreation, students played volleyball and organized a volleyball tournament. Some students were able to swim for a short while at Hamme Pool. Some students had Hackey Sacks which they shared with others.

For spiritual well-being of everyone in the camp we had three evenings with talking circles. Two of those evenings we had male and female circles. Mike Tanner, a minister, came each Sunday morning to deliver an outdoor Christian service.

The Village Science/AISES Initiative plans to have six local Native science fairs in the coming academic year in the following communities: Kotzebue, Barrow, Fairbanks, Old Harbor, St. Paul and Juneau. Each fair will have two sets of judges: teachers/scientists will judge projects for their research method and presentation; Elders will judge projects for their value to the Native culture and village life. Each fair will have a celebration appropriate for the Native culture of its region.

The best projects will be sent to a statewide Native science fair near Anchorage in February 2000. Eight projects from the statewide fair will have the opportunity to enter AISES National Science Fair 2000 to be held in Minnesota.

The staff of the Alaska Rural Systemic Initiative has been discussing the possibility of having a winter camp for students to learn winter survival skills. Village teachers in each of the four regions will be invited to attend monthly audioconference meetings. We shall discuss the feasibility of having a winter camp and the optimal time for such a camp. In addition, we shall plan for the science fairs in the coming academic year. We are encouraging all teachers to attend the audioconference meetings and to extend these opportunities to the students in your school. ✨

# Village Science: They Won't Get It...

by Alan Dick

I was working as part of a curriculum development group. In addition to our other work, we were asked to devise a good icon to represent the combination of physics and chemistry. Immediately the image of a campfire came to my mind. Photosynthesis converts the sun's energy to chemical energy. That stored chemical energy in the wood is released to produce light, heat and even a little sound.

I shared my thought. Immediately someone said, "But they won't get it." I had to agree. Most people wouldn't see the connection. I let it pass. The group tried to combine a test tube with an atomic symbol. It seemed distorted.

Later, a giant "NO!" screamed aloud within me. Of course they won't get it. They are so out of touch with reality. A campfire is a *perfect* symbol of the combination of chemistry and physics. However, most people are so removed from the basics of life they cannot relate to something so meaningful and so important as a campfire.

Our jobs have little or no connection with the meeting of our needs. We sign a check and our house is warm. If the house is still cold, we dial a thermostat or a repair man. That is our connection to reality?

A campfire is real. The fire keeps

us from perishing in the winter. It dispels the trembling of hypothermia after a rainy day of hunting in a boat. It sucks mosquitoes in its updraft in the summer. It keeps predators at a distance. Its radiance penetrates to our bones heating them as well as our souls. It is a friend that dispels the demon of loneliness. The fire is the center of the camp, a focal point. Everything happens around the fire: cooking, drying, planning, stories, the first cup of coffee of the day and the last "good night" of the evening.

The campfire isn't always convenient. We circle it, with our eyes streaming tears from the smoke. The flames scorch our fingers as we remove the coffee pot. It chars our damp socks as we attempt to dry them on a stick. It needs constant tending. The smell clings to our clothes and hair. This is reality.

"They won't get it." They need to get it! NASA needs to get it. MIT and Stanford need to get it. How can we award Ph.Ds to people who cannot make a campfire in the rain?

It is not enough to go to a park with lighter fluid and a bag of charcoal. That is counterfeit.

You owe yourself a campfire. Do it soon before you forget. Go far out in the woods. Spend the night. Don't be in a rush. Watch the fire. Watch the colors, the shape, the constant changes. You can think of the covalent bonds and the chemical reactions occurring, wondering which elements are residual as ash and which ones arise as smoke. You can think of convection, conduction and radiation and the fluid relationship between chemistry and physics, matter and energy.

Better yet, sit by the fire, and think of your ancestors who sat by an identical fire. Time vanishes for a moment. Think of them and their world, their perceptions. Try to connect with their thoughts, dreams and aspirations as you feed the flames a stick at a time. Watch the shape, color and strength of the fire change. Sip the ultimate cup of coffee flavored like no espresso stand could ever imitate. Make a promise that you will do this again soon. Then keep it. 🏹

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