

***Creating a Place for Indigenous Knowledge in Education:
The Alaska Native Knowledge Network***

by
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This chapter will describe a ten-year educational restoration effort aimed at bringing the Indigenous knowledge systems and ways of knowing that have sustained the Native people of Alaska for millennia to the forefront in the educational systems serving all Alaska students and communities today. The focus will be on describing how Native people have begun to reintegrate their own knowledge systems into the school curriculum as a basis for connecting what students learn in school with life out of school. This process has sought to restore a traditional sense of place while at the same time broadening and deepening the educational experience for all students. Included will be a discussion of the role of local Elders, cultural atlases, traditional values, cultural camps, experiential learning, and cultural standards. All serve as the basis for a pedagogy of place that shifts the emphasis from teaching about local culture to teaching through the culture as students learn about the immediate places they inhabit and their connection to the larger world within which they will make a life for themselves.

A refrain commonly heard in conversations among Native people in Alaska is in reference to the challenges associated with “living in two worlds,” one being the locally-derived Native world with which they are intimately associated, and the other being the externally-defined world that has enveloped their existence. The tensions between these two worlds have been at the root of many of the problems that Indigenous people’s have endured throughout the world for several centuries as the explorers, armies, traders, missionaries and teachers have imposed their world view and ways of living onto the people’s they encountered in their quest for colonial domination. These tensions between the ecologically (and thus locally) derived ways of Indigenous people’s and the macro-systems associated with colonial economic and geo-political interests are a direct reflection of the tensions between local diversity and globalization embedded in the theme of this book. As Indigenous people reassert their world views and ways of knowing in search of a proper balance between these “two worlds,” they offer insights into ways by which we can extend the scope of our educational systems to prepare all students to not only make a living, but to make a full-filling and sustainable life for themselves. What follows is a detailed example of how the Indigenous people’s of Alaska have sought to reconcile these tensions and accommodate the differences between their ways of life and those of the outside world, while at the same time strengthening critical features of their own diverse cultural histories and traditions. In so doing, they offer strategies for overcoming the tendencies toward “replication of uniformity” that are so deeply ingrained in the bureaucratic structures associated with globalization (Barnhardt, 1992), and instituting a more locally-grounded, place-based approach that has the potential to integrate “the best of both worlds” (Gruenewald, 2003)

Old Minto Cultural Camp

OUR MISSION IS TO HONOR OUR ANCESTORS
by preserving and protecting Athabascan values, knowledge,
language, and traditions. We aim to facilitate the passing on of
these things from elders to youth, and to share our culture with
others in the land of our grandmothers. We carry out these goals
in the spirit of healthy lifestyles and education, and with respect
for ourselves, the Earth and all life.
– Cultural Heritage and Education Institute

For nearly two decades, the University of Alaska Fairbanks, in cooperation with the Cultural Heritage and Education Institute of the village of Minto, has been offering an opportunity for university students in selected summer courses to spend a week at the Old Minto Cultural Camp on the Tanana River under the tutelage of local Athabascan Elders and their families. The program is designed as a cultural immersion experience for teachers and others new to Alaska, as well as for students entering the UAF graduate programs in cross-cultural studies.

Participants in the Old Minto Cultural Camp are taken 30 miles down the Tanana River from Nenana by river boat to the site of the former village of Minto, which was vacated in 1970 when the new village of Minto was constructed 25 miles away near the Tolovana River on the north end of the Minto Flats. In 1984, the Elders from Minto set up the Cultural Heritage and Education Institute as a non-profit entity with Robert Charlie as director, to help them regain control over the old village site and put it to use for cultural and educational purposes. In addition to the UAF Cultural Camp, the site has been used in the ensuing years by the Minto Elders to provide summer and winter cultural heritage programs for the young people of Minto, as well as for others from as far away as Anchorage, Yukon Territory, New York, England and Australia. In addition, the Tanana Chiefs Conference (a tribal organization serving Interior Alaska) has been using Old Minto as the site for a successful alcohol and drug recovery camp. Despite State restrictions on the use of the site (until title was regained by the Minto Tribal Council in 2004), participants in the various Old Minto programs, including the UAF faculty and students, have helped to restore several of the old buildings, clean up the cemeteries, clear two campsites, and construct a fish-wheel, a smoke house, drying racks, outhouses, kitchen facilities, a dining hall and ten cabins for year-round use.

Participants in the summer cultural immersion program spend eight days at Old Minto, arriving in time for lunch on Saturday and then spending the remainder of the first day “making camp,” including collecting spruce boughs for the tents and eating area, bringing in water and firewood, and helping with the many chores that go with living in a fish camp. Except for a few basic safety rules that are made explicit upon arrival, everything at the camp for the remainder of the week is learned through participation in the on-going life of the people serving as our hosts/teachers. Volunteer work crews are assembled for the various projects and activities that are always underway, with the Elders providing guidance and teaching by example. Many small clusters of people — young and old, Native and non-Native, experts and novices—can be seen throughout the camp busily working, visiting, showing, doing, listening and learning from each other. Teachers become students and students become teachers. At the end of the day, people

gather to sing, dance, joke, tell stories, play games and watch the midnight sun hover over the Tanana River. On the last evening, a potlatch is held with special foods prepared by the camp participants and served to over 100 guests in a traditional format on the ground adjacent to the riverbank, followed with speeches relating the events of the week to the life and history of the area and the people of Minto.

By the time the boats head back upriver to Nenana on Saturday, everyone has become a part of Old Minto—connected to the place and the people whose ancestors are buried there. It is an experience for which there are no textbook equivalents. What is learned cannot be acquired vicariously, because it is embedded in the environment and the learning experience itself, though not everyone comes away having learned the same thing. In fact, one of the strengths of the program is that each participant comes away having learned something different and unique to (and about) themselves.

The Old Minto Camp experience (which occurs during the middle week of a three-week course) contributes enormously to the overall level of cross-cultural understanding that students achieve in a relatively short period of time—a level of understanding that could not be achieved in a years worth of reading and discussion in a campus-based seminar. Part of the reason for this is that students come back to class during the third week with a common experience of immersion in a culture deeply rooted in a particular place, against which they can bounce their ideas and build new levels of understanding. More significantly, however, students have been able to immerse themselves in a new cultural milieu in a non-threatening and guided fashion that allows them to set aside their own predispositions long enough to begin to see the world through other peoples eyes. For this, most of the credit needs to go to the Elders of Minto, who have mastered the art of making themselves accessible to others, and to the Director, Robert Charlie, who makes it all happen. For the Minto people, it provides an opportunity to reconnect with their own heritage and ancestral place, and to enlist the teachers' help in experimenting with new ways to pass on that heritage to their children and grandchildren (as indicated in the Cultural Heritage and Education Institute mission statement).

The greatest challenge for those of us teaching the courses associated with the camp experience is to help the students/teachers find ways to transfer what they have learned at Old Minto to their future practice as educators, while at the same time helping them to recognize the limitations and dangers of over-extending their sense of expertise on the basis of the small bits of cultural insights they may have acquired on the banks of the Tanana River. By taking the teachers to a traditional camp environment for a cultural immersion experience of their own, our intent has been to encourage them to consider ways to use cultural camps and Elder's expertise in their own teaching. At least one graduate of the program has taken the experience to heart and has developed a graduate course in "Place-based Education" into which he has incorporated a weeks stay at Old Minto for his summer class.

Teachers, schools and communities throughout Alaska have sponsored similar camps for a wide variety of purposes, but in many instances the camps are treated as a supplementary experience, rather than as an integral part of the school curriculum. We hope that graduates of Old Minto will lead the way in making cultural camps and Elders the classrooms and teachers of the future in rural Alaska, which is why "Elders and Cultural Camps" has become one of the key initiatives

that has been implemented over the past ten years through the Alaska Rural Systemic Initiative/Alaska Native Knowledge Network in each of the five major cultural regions in Alaska.

Alaska Rural Systemic Initiative

In an effort to address the issues associated with converging knowledge systems in a comprehensive, in-depth way and apply new insights to address long-standing and seemingly intractable problems with schooling for Native students, in 1995 the Alaska Federation of Natives, in collaboration with the University of Alaska Fairbanks and with funding from the National Science Foundation, entered into a long-term educational restoration endeavor—the Alaska Rural Systemic Initiative (AKRSI). The underlying purpose of the AKRSI has been to implement a set of initiatives to systematically document the Indigenous knowledge systems of Alaska Native people and develop school curricula and pedagogical practices that appropriately incorporate local knowledge and ways of knowing into the formal education system. The central focus of the AKRSI strategy has been the fostering of connectivity and complementarity between two functionally interdependent but historically disconnected and alienated complex systems—the Indigenous knowledge systems rooted in the Native cultures that inhabit rural Alaska, and the formal education systems that have been imported to ostensibly serve the educational needs of Native communities. Within each of these evolving systems is a rich body of complementary knowledge and skills that, if properly explicated and leveraged, can serve to strengthen the quality of educational experiences and improve the academic performance of students throughout Alaska (Boyer 2005).

The most critical salient feature of the context in which this work has been situated is the vast cultural and geographical diversity represented by the sixteen distinct Indigenous linguistic/cultural groups distributed across five major geographic regions, as the following map illustrates.



The diverse Indigenous cultural and language systems that continue to survive in villages throughout Alaska have a rich cultural history that still governs much of everyday life in those communities. For over six generations, however, Alaska Native people have been experiencing recurring negative feedback in their relationships with the external systems that have been brought to bear on them, the consequences of which have been extensive marginalization of their knowledge systems and continuing erosion of their cultural integrity. Though diminished and often in the background, much of the Indigenous knowledge systems, ways of knowing and world views remains intact and in practice, and there is a growing appreciation of the contributions that Indigenous knowledge can make to our contemporary understanding in areas such as medicine, resource management, meteorology, biology, and in basic human endeavors, including educational practices (James 2001).

In response to these conditions, the following initiatives were developed and have constituted the major thrusts of the AKRSI applied research and educational restoration strategy:

- Alaska Native Knowledge Network
- Indigenous Science Knowledge Base
- Multimedia Cultural Atlas Development
- Native Ways of Knowing/Pedagogical Practices
- Elders, Cultural Camps and Traditional Values
- Village Science Applications, Camps and Fairs
- Alaska Standards for Culturally Responsive Schools
- Native Educator Associations

Over a period of ten years, these initiatives have served to strengthen the quality of educational experiences and have been shown to consistently improve the academic performance of students in participating schools throughout Alaska (AKRSI Annual Report 2004). In the course of implementing the AKRSI initiatives, we have come to recognize that there is much more to be gained from further mining the fertile ground that exists within Indigenous knowledge systems, as well as at the intersection of converging knowledge systems and world views. The depth of knowledge derived from the long-term inhabitation of a particular place that Indigenous people have accumulated over millennia provides a rich storehouse upon which schools can draw to enrich the educational experiences of all students. However, this requires more than simply substituting one body of knowledge for another in a conventional subject-based curriculum—it requires substantial rethinking of not only what is taught, but how it is taught, when it is taught, where it is taught, and who does the teaching. With these considerations in mind, we established the Alaska Native Knowledge Network as a key component of the AKRSI effort, to serve as a framework for documentation, analysis, dissemination and application of information about Indigenous knowledge systems and their relevance in the contemporary world.

Native Ways of Knowing and Traditional Values

Indigenous peoples throughout the world have sustained their unique worldviews and associated knowledge systems for millennia, even while undergoing major social upheavals as a result of transformative forces beyond their control. Many of the core values, beliefs, and practices associated with those worldviews have survived and are beginning to be recognized as being just

as valid for today's generations as they were for generations past. The depth of Indigenous knowledge rooted in the long inhabitation of a particular place offers lessons that can benefit everyone, from educator to scientist, as we search for a more satisfying and sustainable way to live on this planet (Barnhardt and Kawagley 2005).

Actions currently being taken by Indigenous people in communities throughout the world clearly demonstrate that a significant "paradigm shift" is under way in which Indigenous knowledge and ways of knowing are recognized as constituting complex knowledge systems with an adaptive integrity of their own (Barnhardt and Kawagley 2004). As this shift evolves, Indigenous people are not the only beneficiaries—the issues are of equal significance in non-Indigenous contexts. Many problems manifested within conditions of marginalization have gravitated from the periphery to the center of industrial societies, so that new (but old) insights emerging from Indigenous societies are of equal benefit to the broader educational community.

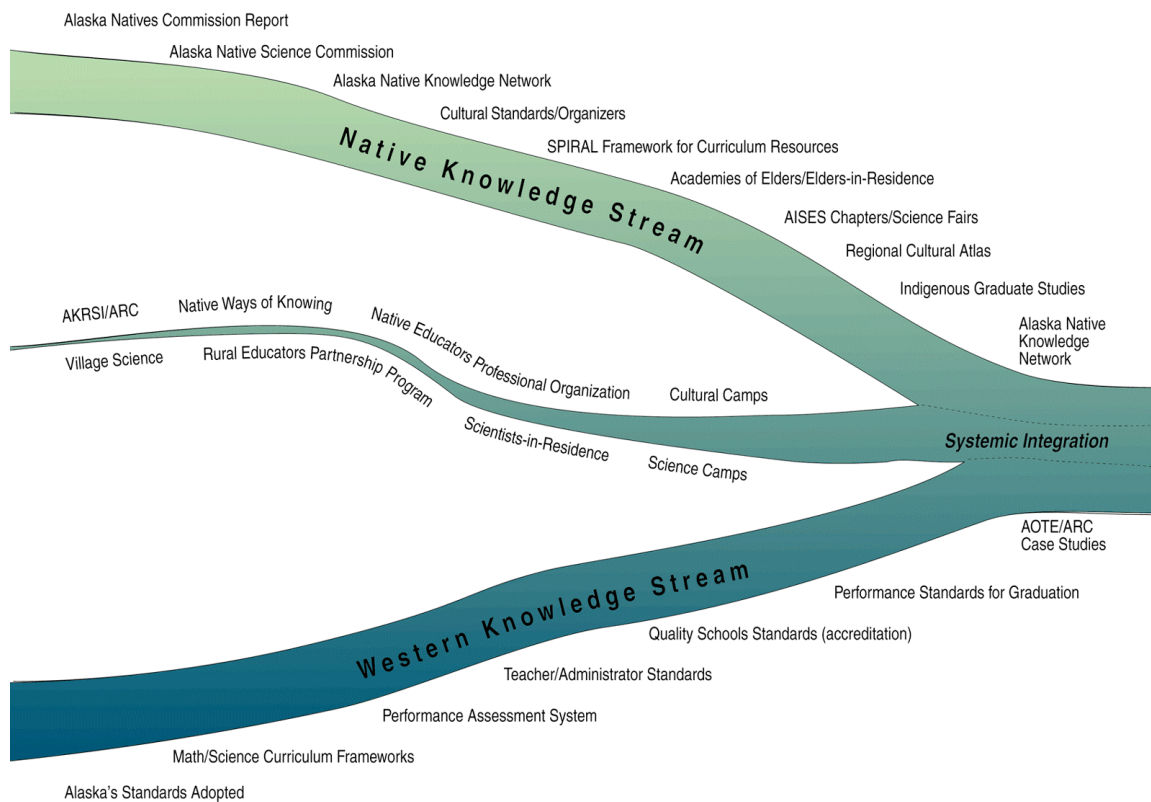
Over many generations, Indigenous people have constructed their own ways of looking at and relating to the world, the universe, and to each other (Barnhardt and Kawagley 1999; Eglash 2002). Their traditional education processes were carefully crafted around observing natural processes, adapting modes of survival, obtaining sustenance from the plant and animal world, and using natural materials to make their tools and implements. All of this was made understandable through demonstration and observation accompanied by thoughtful stories in which the lessons were imbedded (Kawagley 1995; Cajete 2000). However, Indigenous views of the world and approaches to education have been brought into jeopardy with the spread of Western values, social structures and institutionalized forms of cultural transmission.

Over the past ten years, Native Elders and educators from every cultural region in Alaska have sought to reconnect with their cultural traditions through a variety of initiatives aimed at making explicit their expectations for drawing upon their own ways in the up-bringing of their children and grandchildren. For example, the following cultural values were drawn from several lists of values adopted by Alaska Native Elders from each cultural region in the state to serve as the core values by which the community members, students and school staff are expected to engage with one another and by which educational practices are to be implemented:

Respect for Elders
Respect for Nature
Respect for Others
Love for Children
Providing for Family
Knowledge of Language
Wisdom
Spirituality
Responsibility
Unity
Compassion
Love
Dignity
Honoring the Ancestors

Honesty
 Humility
 Humor
 Sharing
 Caring
 Cooperation
 Endurance
 Hard Work
 Self-Sufficiency
 Peace

Such universal values, once identified and adopted by Native communities, provide an invaluable basis on which to construct an educational system that is not only applicable to Native students, but has relevance for all students. The metaphor we've used to describe the processes we are engaged in with the Native communities and schools is that of converging streams of knowledge, as illustrated in the following diagram:



A variety of initiatives have been implemented aimed at documenting the makeup of the Native knowledge stream to make it more accessible to schools, along with parallel initiatives aimed at loosening up the structure of the Western knowledge stream to make room for the local contributions. In addition, initiatives such as the Old Minto camp have illustrated how both knowledge streams can come together in mutually productive ways. The goal of these efforts has been to demonstrate the complementarity that can be achieved by understanding the

interaction of these knowledge systems in ways that increase both the depth and breadth of learning opportunities for all students.

Recently, many Indigenous as well as non-Indigenous people have begun to recognize the limitations of a mono-cultural, single-stream education system, and new approaches have begun to emerge that are contributing to our understanding of the relationship between Indigenous ways of knowing and those associated with Western society and formal education. Our challenge now is to devise a system of education for all people that respects the epistemological and pedagogical foundations provided by both Indigenous and Western cultural traditions. While the examples used here to illustrate that point will be drawn primarily from the Alaska Native context, they are intended to be illustrative of the issues that emerge in any context where efforts are underway to reconnect education to a sense of place and its attendant cultural practices and manifestations.

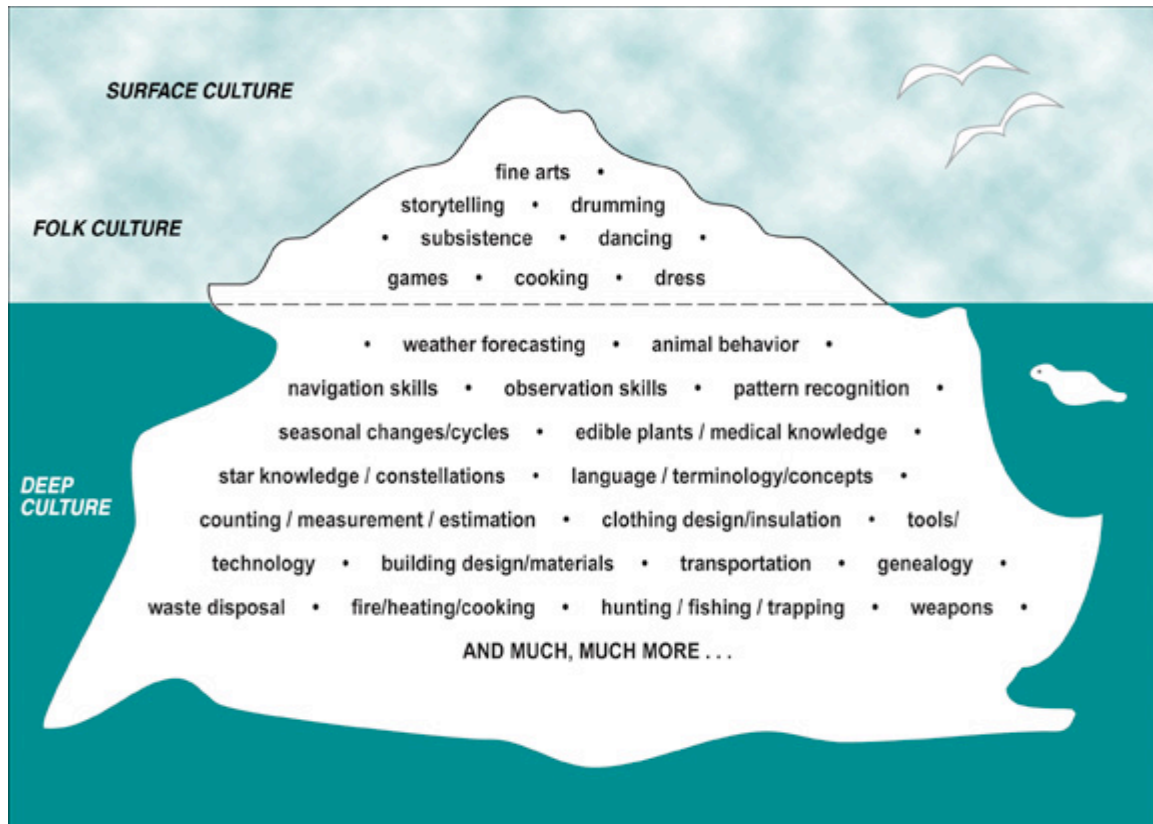
Alaska Native Knowledge Network: Connecting Education to Place

As the AKRSI effort began to accumulate a widening range of examples of the successful merging of Indigenous and Western ways of making sense of the world, we sought to develop curricular and pedagogical strategies that incorporated the experiential features which served to bring the two systems of thought together. To share the insights that were gained from this process and to promote the exchange of materials and ideas among educators throughout Alaska and beyond, we formed the Alaska Native Knowledge Network (ANKN), which consists of a curriculum database, an extensive web site and listserv, and a publication production and distribution facility. The following section will illustrate some of the kinds of resources that have been developed through the ANKN.

The primary vehicle for promoting experiential, inquiry-based pedagogy has been the development of curriculum materials that guide teachers into the use of the local environment and cultural resources as a foundation for all learning. A key incentive for such practices has been the sponsorship of Alaska Native Science Camps and Fairs in which students work with local Elders to identify topics of local interest and develop projects illustrating the use of “science” in everyday life in their community and environment. The science project opportunities have been unlimited as Elders have shared their accumulated knowledge derived from living on the land over many generations. For example, the Minto Elders identified 72 uses of birch trees, many of which provided intriguing opportunities for students to test the scientific principles imbedded in the Elders knowledge (Why is bark for baskets harvested at a certain time of the year?).

The projects prepared by the students are judged by Elders as well as scientists, using two sets of criteria to insure that the students have incorporated both culturally accurate and scientifically valid principles and practices. This is a learning process in which the teachers, Elders and students have all been eager and willing participants, and we now have numerous examples of integrated science/culture camps and fairs which clearly illustrate the ways in which an extended period of experiential inquiry in a traditional camp environment can serve as the stepping stone toward in-depth curriculum and instruction back in the classroom (<http://www.ankn.uaf.edu/anses/>).

One of the major ANKN initiatives in the area of curricula has been the creation of a clearinghouse and database to identify, review and catalog appropriate national and Alaska-based curriculum resources suitable for Indigenous settings, and make them available throughout the state via the ANKN web site (<http://www.ankn.uaf.edu>). Access to these resources has been expanded to include a CD-ROM collection of the best materials in various thematic areas relevant to schools in Alaska. In selecting culturally relevant materials for the database and CD-ROM collections, we have sought to reach beyond the surface features of Indigenous cultural practices and illustrate the potential for comparative study of deep knowledge drawn from both the Native and Western streams. Examples of topical areas for instruction in which opportunities for linking local knowledge with the textbook curriculum are readily available are illustrated in the lower portion of the following iceberg analogy:

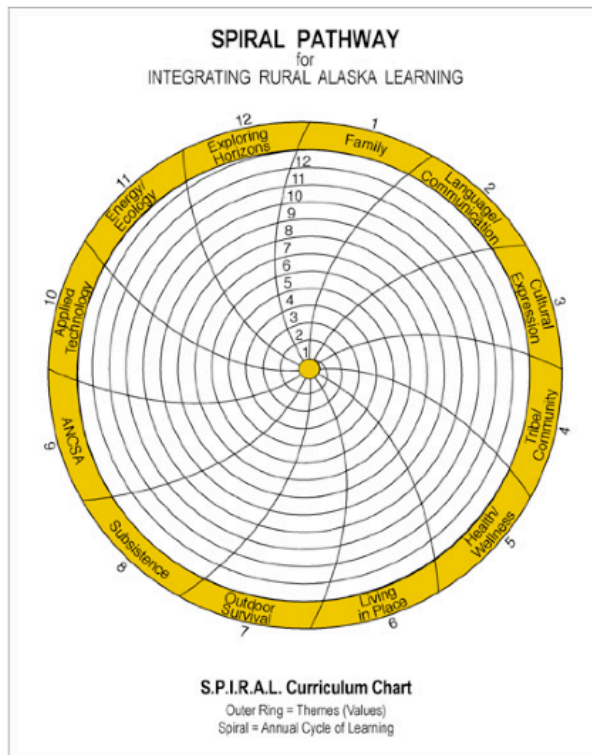


The knowledge and skills derived from thousands of years of careful observation, scrutiny and survival in a complex ecosystem readily lends itself to the in-depth study of basic principles of biology, chemistry, physics and mathematics, particularly as they relate to areas such as botany,

geology, hydrology, meteorology, astronomy, physiology, anatomy, pharmacology, technology, engineering, ecology, topography, ornithology, fisheries and other applied fields (cf. Carlson 2003; Denali Foundation 2004). Requests for the ANKN curricular materials listed in the ANKN database has grown steadily, with over 800,000 “hits” from nearly 40,000 different individuals recorded on the web site each month. The CD-ROM containing *Village Science* (<http://www.ankn.uaf.edu/VS/index.html>), the *Handbook for Culturally Responsive Science Curriculum* (<http://www.ankn.uaf.edu/handbook/>), and *Alaska Science Camps, Fairs and Experiments* (http://www.ankn.uaf.edu/Alaska_Science/) has been an instant hit and is being used extensively in schools and professional development programs throughout the state. It is the ready availability of these resources that has given teachers the impetus to revamp their curricula to integrate the place-based approach to education that has been championed through the AKRSI.

The integration of the curricular and pedagogical strategies outlined above into everyday practice in schools has been fostered in several ways. The first has been through the promotion of Indigenous “organizers” as the basis for bringing all the elements of the educational experience together in a framework that is grounded in the cultural and physical environment in which the school is situated. Guidelines and models to assist teachers and districts in such development are now included in the Alaska curriculum frameworks documents distributed by the Alaska Department of Education, as well as through ANKN (cf. Scollon, 1988). A recent addition to the arsenal of professional development activities that expose teachers to available curriculum resources has been the regional implementation of cross-cultural orientation programs for new teachers modeled on the Old Minto camp.

One of the vehicles for bringing coherence to the ideas imbedded in the initiatives promoted by the AKRSI has been the development of a culturally-oriented curriculum framework for purposes of organizing all the curricular and cultural resources that are emerging from the schools as a result of the various initiatives. The “Spiral Pathway for Integrating Rural Alaska Learning” (SPIRAL), is structured around 12 themes and grade levels, so that the compilation of curriculum resources can be accessed by clicking on the appropriate theme and grade level, which will then produce a codified list of available materials, many of which can be downloaded directly from the ANKN web site.



To take the place-based curriculum structure imbedded in the SPIRAL thematic chart a step further, a group of Native educators from the Athabascan region of Interior Alaska have developed a 7-12 Charter School (scheduled to open in the Fall of 2005), in which the entire curriculum will be based on the SPIRAL framework and will be implemented in a three-week modular format where students will enroll in once course at a time and rotate through each of the 12 themes on an annual year-round schedule. The specific components that will make up the curriculum are summarized in the following chart, all of which have been aligned with the State content standards.

S.P.I.R.A.L. CURRICULUM THEMATIC SUMMARY

Level Theme	Level 7	Level 8	Level 9	Level 10 (projected)	Level 11 (projected)	Level 12 (projected)
FAM	Fall lang/culture immersion camp	Native values in everyday life	Cultural camp	Genealogy preparation	Family/Elder history	Child-rearing/parenting
L/C	Language immers follow-up	Translation project	Cultural journalism	Place names project	Life history of an Elder	Mentor/apprentic for local lang
CE	Visual art project	Traditional songs and dancing	Traditional crafts	Storytelling	Traditional ceremonies	Host a traditional potlatch
T/C	Community services map proj	Land use planning	Tribal/clan history	AFN Youth/Elder Conference	Tribal/state/federal relationships	Service Learning Project
H/W	AK Native games I	Nutrition and food preparat/preservat	AK Native games II	Ethno-botany	Alaska Native games III	Trad heal/well I-search project
LP	Elements of the Universe	Boreal forest	Life in the sub-arctic	Cultural atlas	Rural/urban interface	Sense of place
OS	Life in winter camp	Traditional shelter and clothing	Weather	Geospatial surv cult situated des	Migration and Navigation	Winter excursion
SUB	Soos Curriculum	Subsistence way of life	Trapping	Fisheries	Waterfowl	Hunting
ANC	Business plan preparation	School-based enterprise	History and impact of ANCSA	Regional Corporations	Alaska Native law	Native corporation internship
AT	Native science fair	Digital tools	Village science/math	Traditional modes of transp	Boat/snow machine mainten	Senior project
E/E	Math story problems	Snow science	Alaska geography	Contaminants	Arctic biology	Arctic geophysics
EH	Alaska history	U.S. history/geography	World history/geography	Close-up	Upward Bound/RAHI	Travel program/senior trip

Another area in which the AKRSI is promoting initiatives impacting student/teacher, school/curriculum interactions is in the use of technology to extend and deepen learning opportunities for Native students. For those schools that have full technology access, we have been providing training in implementing “cultural atlases”—a CD-ROM/web site development project in which students research any aspect of their culture/community/region and assemble the information in a multimedia format through the use of technology. Cultural atlases engage students in information gathering and compiling processes that simultaneously enhance learning of subject matter, technology applications and cultural knowledge, with the results often of direct interest and service to their communities. Areas in which cultural atlases have been developed by students in various schools around the state include life histories, genealogies, place names, language documentation, uses of local flora and fauna, subsistence practices, community histories, traditional arts and crafts, mapping projects and weather knowledge. The AKRSI staff member responsible for the cultural atlas initiative was invited to attend a UNESCO-sponsored conference on “Multimedia and Invisible Culture,” to illustrate how technology can be used to help students connect and contribute to their place (King and Schiermann 2004).

Alaska Standards for Culturally Responsive Schools

One of the major constraints in achieving long-term improvement of any kind in rural schools in Alaska is the persistent high turnover rate among educational personnel (an average of one-third annually in rural schools), coupled with a statewide Alaska Native teaching staff of under five percent, when the Native student population constitutes 24% of the school enrollment.

Therefore, the emphasis of the AKRSI has been on implementing changes that can bring about a degree of stability and continuity in the professional personnel in the schools, particularly through the preparation of qualified Alaska Native teachers and administrators, and engaging Elders and local experts in the educational process. This has led to a focus on capacity building through the formation of a series of regional Native educator associations to foster leadership development on the part of those teachers for whom the community/region/state is their home.

A turning point in the AKRSI efforts took place in 1998, when the Native educators from each of the regional associations collectively produced and adopted the *Alaska Standards for Culturally Responsive Schools*, which have since been endorsed by the State Board of Education and are now in use in schools throughout the state. The “Cultural Standards” embody the cultural and educational restoration strategy of the AKRSI and have had ripple effects throughout Alaska, in urban as well as rural schools. These standards have provided guidelines against which schools and communities can examine the extent to which they are attending to the educational and cultural well-being of their students. They include standards in five areas: for students, educators, curriculum, schools and communities. The emphasis is on fostering a strong connection between what students experience in school and their lives out of school by promoting opportunities for students to engage in in-depth experiential learning in real world contexts.

Culturally responsive education is directed toward culturally-knowledgeable students who are well grounded in the cultural heritage and traditions of their community and are able to understand and demonstrate how their local situation and knowledge relates to other knowledge systems and cultural beliefs. This includes:

- providing multiple avenues for the incorporation of locally-recognized expertise in all actions related to the use and interpretation of local cultural knowledge and practices as the basis for learning about the larger world;
- reinforcing the positive parenting and child-rearing practices from the community in all aspects of teaching and to engage in extended experiences that involve the development of observation and listening skills associated with the traditional learning ways of Native people;
- incorporating cultural and language immersion programs and the organization and implementation of extended camps and other seasonal everyday-life experiences to ground student learning naturally in the surrounding environment.

As articulated by the Native educators, the *Alaska Standards for Culturally-Responsive Schools* point to the need for educators who:

- incorporate local ways of knowing and teaching in their work.
- use the local environment and community resources on a regular basis to link what they are teaching to the everyday lives of the students.
- participate in community events and activities in an appropriate and supportive way.
- work closely with parents to achieve a high level of complementary educational expectations between home and school.
- recognize the full educational potential of each student and provide challenges necessary for them to achieve that potential. (ANKN, 1998, p. 9-12)

Subsequently, the Native educator associations have elaborated on the Cultural Standards through the preparation of *Guidelines for the Preparation of Culturally Responsive Teachers* (which are now being put to use in pre-service and in-service programs around the state), as well as a set of *Guidelines for Respecting Cultural Knowledge*, *Guidelines for Nurturing Culturally Healthy Youth*, *Guidelines for Strengthening Indigenous Languages*, *Guidelines for Cross-Cultural Orientation Programs*, and *Guidelines for Culturally Responsive School Boards* (the latter have been adopted by the Alaska Association of School Boards). These cultural standards and guidelines are all designed to assist schools and communities in the appropriate integration of indigenous knowledge in all aspects of their operations, and are all rooted in the belief that a form of education grounded in the heritage language and culture Indigenous to a particular place is a fundamental prerequisite for the development of culturally-healthy students and communities.

With regard to participation, the standards and guidelines themselves emphasize the importance of extensive community and parental interaction and involvement in their children's education, both in and out of school. Elders, parents and local leaders are encouraged to be involved in all aspects of instructional planning and the design and implementation of programs and curricula. Culturally-responsive schools foster extensive on-going participation, communication and interaction between school and community personnel. Elders are accorded a central role as a primary source of knowledge throughout the standards and guidelines. An important element for building upon the traditional learning styles of Indigenous peoples is the creation and maintenance of multiple avenues for Elders to interact formally and informally with students at all times. This includes opportunities for students to engage in the documenting of Elders' cultural knowledge on a regular basis, thereby contributing to the maintenance and transmission of that knowledge. The cultural and professional expertise of Elders is essential and is to be used in appropriate and respectful ways, as illustrated by the Old Minto example cited earlier.

As they were being developed, all of the cultural standards and guidelines were deliberately phrased in positive and proactive terms, rather than dwelling on and delineating the negative aspects of past educational practices. Some of the multiple uses to which Native educator's envisioned the cultural standards being put are as follows:

- They may be used as a basis for reviewing school or district-level goals, policies and practices with regard to the curriculum and pedagogy being implemented in each community or cultural area.
- They may be used by a local community to examine the kind of home/family environment and parenting support systems that are provided for the upbringing of its children.
- They may be used to devise locally appropriate ways to review student and teacher performance as it relates to nurturing and practicing culturally healthy behavior, including serving as potential graduation requirements for students.
- They may be used to strengthen the commitment to revitalizing the local language and culture and fostering the involvement of Elders as an educational resource.
- They may be used to help teachers identify teaching practices that are adaptable to the cultural context in which they are teaching.

- They may be used to guide the preparation and orientation of teachers in ways that help them attend to the cultural well-being of their students.
- They may serve as criteria against which to evaluate educational programs intended to address the cultural needs of students.
- They may be used to guide the formation of state-level policies and regulations and the allocation of resources in support of equal educational opportunities for all children in Alaska.

Since their adoption in 1998, the Cultural Standards have been used for all these purposes and many more, including serving as model criteria for an accreditation system for Indigenous-serving higher education programs and institutions.

For educators new to the use of the Cultural Standards, a helpful resource has been the *Handbook for Culturally Responsive Science Curriculum*, which provides further insight, practical information and examples of how to incorporate traditional knowledge in science curricula and integrate it with Western science, how to relate curriculum topics to the cultural standards, and examples of culturally appropriate strategies for instruction and assessment. The *Handbook for Culturally Responsive Science Curriculum* provides useful information on how to approach and involve Elders as teachers, and highlights how traditional teaching and learning can be combined with strategies for teaching inquiry-based science. Some of the compatible strategies identified include:

- community involvement and cooperative groups;
- multiple teachers as facilitators of learning;
- investigate fundamental science questions related to life, seasons and environment;
- investigate questions from multiple perspectives and disciplines;
- learn by active and extended inquiry;
- use of multiple sources of expert knowledge including cultural experts;
- diverse representations and communication of student ideas and work to classmates and community (Stephens 2000, p. 28)

In this respect, the incorporation of the *Alaska Standards for Culturally-Responsive Schools* in all aspects of the school curriculum and the demonstration of their applicability in providing multiple alternative avenues to meet the State content standards is central. As indicated in the cultural standards, culturally responsive curricula:

- reinforce the integrity of the cultural knowledge that students bring with them;
- recognize cultural knowledge as part of a living and constantly adapting system that is grounded in the past, but continues to grow through the present and into the future;
- use the local language and cultural knowledge as a foundation for the rest of the curriculum and provide opportunities for students to study all subjects starting from a base in the local knowledge systems;
- foster a complementary relationship across knowledge derived from diverse knowledge systems;
- situate local knowledge and actions in a global context: ‘think globally, act locally’;
- unfold in a physical environment that is inviting and readily accessible for local people to enter and utilize. (ANKN, 1998, p. 13-19)

Summary

The primary thrust of the Alaska Native Knowledge Network in its effort to create a place for Indigenous knowledge in education can best be summarized by the following statement taken from the introduction to the *Alaska Standards for Culturally Responsive Schools*:

By shifting the focus in the curriculum from teaching/learning *about* cultural heritage as another subject to teaching/learning *through* the local culture as a foundation for all education, it is intended that all forms of knowledge, ways of knowing and world views be recognized as equally valid, adaptable and complementary to one another in mutually beneficial ways. (ANKN, 1998, p. 3)

While much remains yet to be done to fully achieve the intent of Alaska Native people in seeking a place for their knowledge and ways in the education of their children, they have succeeded in demonstrating the efficacy of an educational system that is grounded in the deep knowledge associated with a particular place, upon which a broader knowledge of the rest of the world can be built. This is a lesson about “living in two worlds” from which we can all learn.

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