

NATIVE PATHWAYS TO
EDUCATION

ALASKA NATIVE
CULTURAL RESOURCES

INDIGENOUS
KNOWLEDGE SYSTEMS

INDIGENOUS
EDUCATION WORLDWIDE

CULTURE, COMMUNITY AND PLACE IN ALASKA NATIVE EDUCATION

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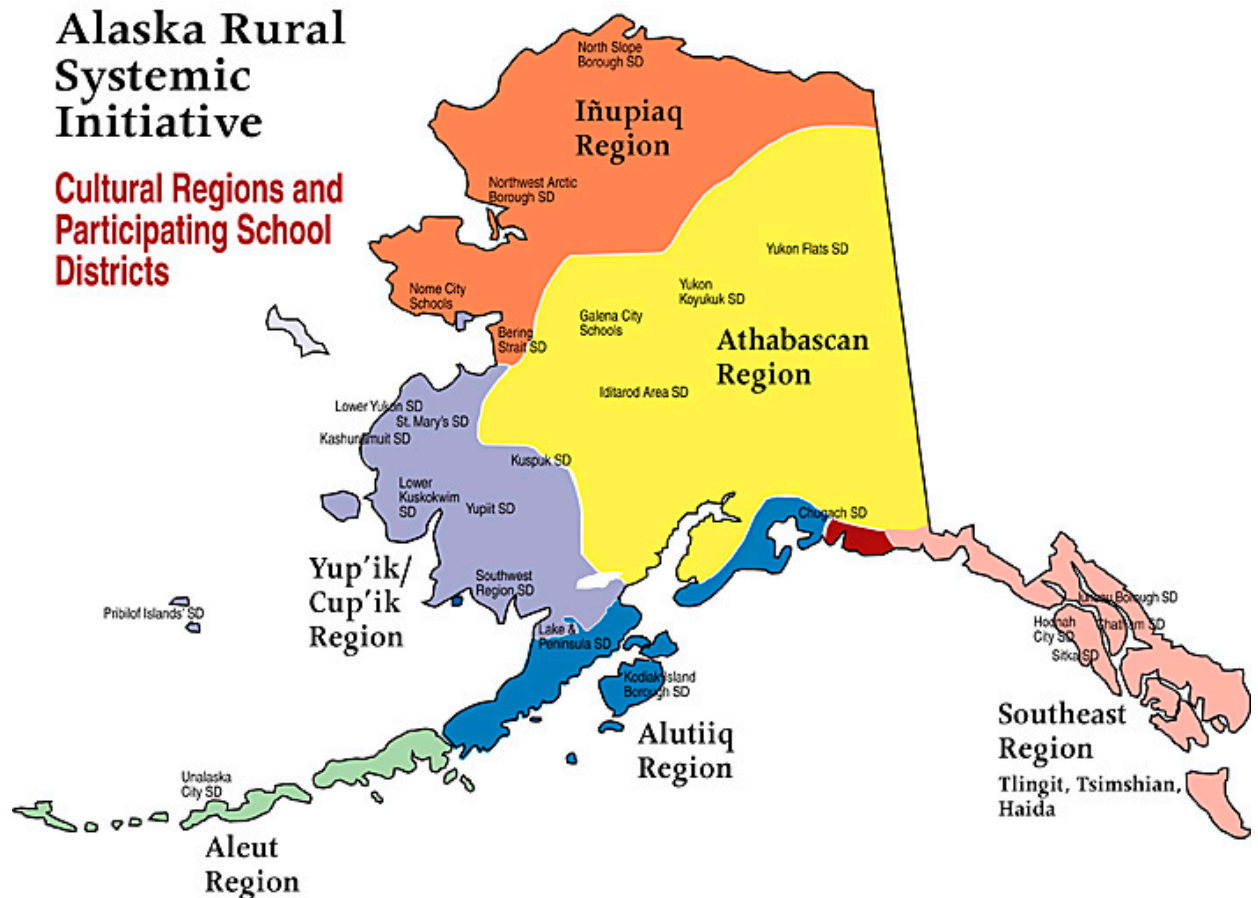
Education in one form or another has been an essential ingredient contributing to the cultural and physical survival of the Indigenous peoples of Alaska for millennia. The accumulated knowledge systems, world views and ways of knowing derived from first-hand engagement with an oftentimes harsh and inscrutable arctic environment have been integrated into the fabric of the Indigenous societies and passed on seamlessly from one generation to the next in the course of everyday life. Education in its traditional forms continues to be an integral part of Alaska Native cultures and communities.

With the arrival of the early explorers, traders, missionaries and teachers, a collision of world views occurred, including the introduction of competing ways of learning about and understanding the world in which people lived, thus disrupting the balance in the traditional system. Gradually, a new way of educating was introduced in the form of "schooling," operating on the assumption that the introduction of western ways through western institutions would transform Native people into citizens of the "modern" world. However, after 100 years this "new" system has been found wanting on the river banks and ocean shores that Alaska Native people call home, often marginalizing traditional practices and providing for neither the cultural nor the academic well-being of many of the Native students entrusted to its care.

As a result of the many years of continued frustration and broken promises at the hands of outside educational experts, Native people themselves are now asserting their own ideas for transforming schooling into a more culturally adaptive form of education, and they are finding ways to improve the quality of education for all students in the process. The remainder of this article will describe how schools throughout Alaska are being refocused by bringing together the deep traditional knowledge of Alaska Native people with the Western-based constructs, principles and theories imbedded in conventional curricula. The long-standing democratic principle of local control of education is being brought to bear on schools in rural Alaska through the bottom-up educational reform strategy of the Alaska Rural Systemic Initiative, while at the same time Native communities are grappling with the top-down pressures of current federal mandates.

The Alaska Rural Systemic Initiative (AKRSI) was established in 1994 under the auspices of the Alaska Federation of Natives, which has served as the institutional home base and support structure for the AKRSI in cooperation with the University of Alaska, with funding from the National Science Foundation. The purpose of the Alaska Rural Systemic Initiative has been to implement a set of initiatives that systematically document the Indigenous knowledge systems of Alaska Native people and develop pedagogical practices that appropriately integrate Indigenous knowledge and ways of knowing into all aspects of the education system. In practical terms, the most important intended outcome is an increased recognition of the complementary nature of Native and western knowledge, so both can be effectively utilized as a foundation for the school curriculum and integrated into a more comprehensive approach to education that is grounded in the existing cultural and physical environment in which students live.

The AKRSI initiatives themselves are implemented on a rotational cycle organized in reference to the major cultural regions that make up Alaska, so that the educational components are tailored to fit the particular cultural context in which they are situated. The following map illustrates the geographic spread of the various Alaska Native cultural groups, as well as the school districts in each region that have been participating in the initiatives.



The central focus of the AKRSI reform strategy is the fostering of connectivity and complementarity between two functionally interdependent but largely disconnected 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 serve the educational needs of rural 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 for students throughout rural Alaska (Boyer, 2005).

Indigenous Knowledge Systems

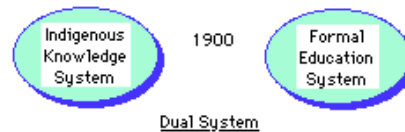
The 16 distinct Indigenous cultural and language systems that continue to survive in rural communities throughout Alaska have a rich cultural history that still governs much of everyday life in those communities. For over six generations, however, Alaska Native people have been experiencing recurring 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 dissolution of their cultural integrity. Though diminished and often in the background, much of the Native knowledge systems, ways of knowing and world views remain 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 behavior and educational practices. Through long observation they have become specialists in understanding the interconnectedness and holism of all things in the universe (Kawagley, 1995; Barnhardt and Kawagley, 1999; Barnhardt and Kawagley, 2005).

Among the qualities that are often identified as inherent strengths of Indigenous knowledge systems are those that have also been identified as focal constructs in the study of the dynamics of complex adaptive systems. These are qualities that focus on the processes of interaction between the parts of a system, rather than the parts in isolation, and it is to those interactive processes that the AKRSI educational reform strategy has been directed. In so doing, however, attention has extended beyond the relationships of the parts within an Indigenous knowledge system and taken into account the relationships between the system as a whole and the other external systems with which it interacts, the most critical and pervasive being the formal education systems which now impact the

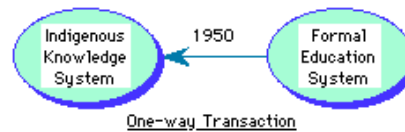
lives of every Native child, family and community in Alaska.

The Formal Education System

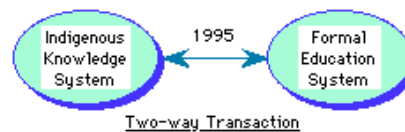
Formal education is still an evolving, emergent system that is far from equilibrium in rural Alaska, thus leaving it vulnerable and malleable in response to a well-crafted strategy of systemic reconstruction. The advantage of working with systems that are operating at the edge of chaos is that they are more receptive and susceptible to innovation and change as they seek equilibrium and order in their functioning (Barnhardt and Kawagley, 2004). Such is the case for many of the educational systems in rural Alaska, for historical as well as unique contextual reasons. From the time of the arrival of the Russian fur traders in the late 1700's up to the early 1900's, the relationship between most of the Native people of Alaska and education in the form of schooling (which was reserved primarily for the immigrant population at that time) may be characterized as two mutually independent systems with little if any contact, as illustrated by the following diagram:



Prior to the epidemics that wiped out over 60% of the Alaska Native population in the early part of the 20th century, most Native people continued to live a traditional self-sufficient lifestyle with only limited contact with fur traders and missionaries (Napoleon, 1991). The oldest of the Native Elders today grew up in that traditional cultural environment and still retain the deep knowledge and high language that they acquired during their early childhood years. They are also the first generation to have experienced significant exposure to schooling, many of them having been orphaned as a result of the epidemics. Schooling, however, was strictly a one-way process at that time, mostly in distant boarding schools and orphanages with the main purpose being to assimilate Native people into Western society, as practiced by the missionaries and school teachers (who were often one and the same). Given the total disregard (and often derogatory attitude) toward the Indigenous knowledge and belief systems in the Native communities, the relationship between the two systems was limited to a one-way flow of communication and interaction up through the 1950's, and thus can be characterized as follows:



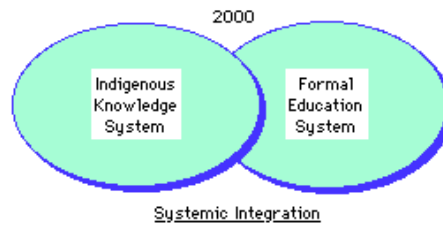
Democratic principles were in short supply in these early years, with virtually all decisions associated with schooling originating outside the Native communities and cultures. By the early 1960's, elementary schools had been established in most Native communities, and by the late 1970's, a class action lawsuit had forced the state to develop high school programs in the villages throughout rural Alaska. At the same time (in 1976), the federal and state-operated education systems were dismantled and in their place over 20 new school districts were created to operate the schools in rural communities. That placed the rural school systems serving Native communities under local control for the first time, and concurrently a new system of secondary education was established that students could access in their home community. These two steps, along with the development of bilingual and bicultural education programs under state and federal funding and the influx of a limited number of Native teachers who began to bridge the cultural divide by incorporating the knowledge base from within the local communities in their teaching, created the potential for schools to become more than one-way conduits for Western ways. This opened the doors for the beginning of two-way interaction between schools and the Native communities they served, as illustrated by the following diagram depicting rural education by 1995 (when the AKRSI was initiated):



Despite the structural and political reforms that took place in the 70's and 80's, rural schools have continued to produce a dismal performance record by most any measure, and Native communities continue to experience significant social, cultural and educational dislocations, with most indicators placing communities and schools in rural Alaska at the bottom of the scale nationally. While there has been some limited representation of local

cultural elements in the schools (e.g., basket making, sled building, songs and dances), it has been at a fairly superficial level with only token consideration given to the significance of those elements as integral parts of a larger complex adaptive cultural system that continues to imbue peoples lives with purpose and meaning outside the school setting. Though there is some minimum level of interaction between the two systems, functionally they have remained worlds apart, with the professional staff overwhelmingly non-Native (95% statewide) and with a turnover rate averaging 30-40% annually.

With these considerations in mind, the Alaska Rural Systemic Initiative has sought to serve as a catalyst to promulgate reforms focusing on increasing the level of connectivity and complementarity between the formal education systems and the Indigenous knowledge systems of the communities in which they are situated. In so doing, the AKRSI has sought to bring the two systems together in a manner that promotes a synergistic relationship such that the two previously separate systems can join to form a more comprehensive holistic system that can better serve all students, not just Alaska Natives, while at the same time preserving the essential integrity of each component of the combined over-lapping system. The new combined, interconnected, interdependent, integrated system to which AKRSI has aspired may be depicted as follows:

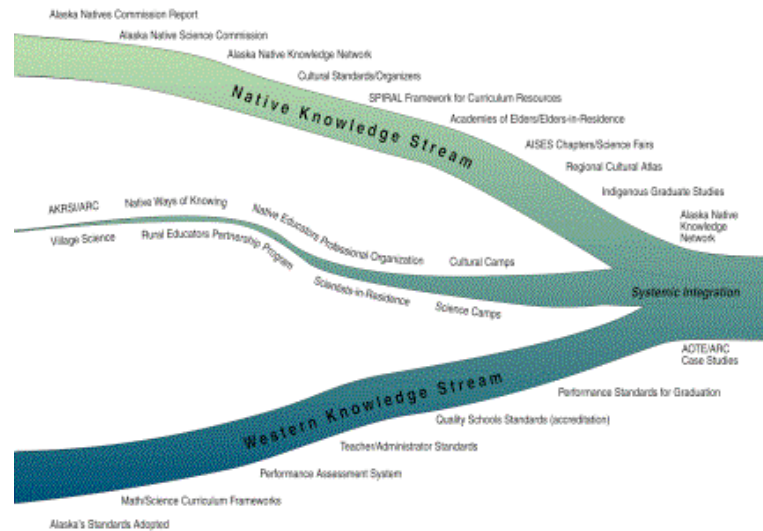


Forging an Emergent System of Education for Rural Alaska

In May, 1994 the Alaska Natives Commission, a federal/state task force that had been established two years earlier to conduct a comprehensive review of programs and policies impacting Native people, released a report articulating the need for all future efforts addressing Alaska Native issues to be initiated and implemented from within the Native community. The long history of failure of external efforts to manage the lives and needs of Native people made it clear that outside interventions were not the solution to the problems, and that Native communities themselves would have to shoulder a major share of the responsibility for carving out a new future. At the same time, existing government policies and programs would need to relinquish control and provide latitude and support for Native people to address the issues in their own way, including the opportunity to learn from their mistakes. It is this two-pronged approach that is at the heart of the AKRSI educational reform strategy—Native community initiative coupled with a supportive, adaptive, collaborative education system.

One of the most significant initiatives to come from the Native community was the adoption of a set of “cultural standards” that were developed by Alaska Native educators and Elders to provide explicit guidelines for how students, teachers, curriculum, schools and communities could integrate the local culture and environment into the formal education process so that students would be able to achieve cultural well-being as a result of their schooling experience (<http://www.ankn.uaf.edu/publications/standards.html>). The focus of these cultural standards has been on shifting the emphasis in education from teaching about culture to teaching through the local culture as a foundation for all learning, including the usual subject matter.

The key agents of change around which the AKRSI educational reform strategy has been constructed are the Alaska Native educators working in the formal education system coupled with the Native Elders who are the culture-bearers for the Indigenous knowledge system. Together, the Native educators and Elders have served as catalysts to reconstitute the way people think about and do education in rural schools throughout Alaska. The role of the Alaska Rural Systemic Initiative has been to guide these agents through an on-going array of locally-generated, self-organizing activities that produce the organizational change needed to move toward a new form of emergent and convergent system of education for rural Alaska. The overall configuration of this emergent system may be characterized as two interdependent though previously separate systems being nudged together through a series of initiatives maintained by a larger system of which they are constituent parts, as illustrated in the following diagram:



Each of the AKRSI initiatives serves to guide the streams toward a mutually compatible and complementary relationship. For example, the Alaska Native Knowledge Network assembles and provides easy access to curriculum resources that support the work underway on behalf of both the Indigenous knowledge system and the formal education system (<http://www.ankn.uaf.edu>). In addition, the ANKN newsletter, *Sharing Our Pathways*, provides an avenue for on-going communication between all elements of the constituent systems. Concurrently, the AKRSI has been collaborating with the Alaska Department of Education and school districts in bringing Native educators from the margins to the center of educational decision making to shape policy development in ways that take into consideration the cultural context in which students acquire and demonstrate their knowledge, using the cultural standards as a guide.

Together, these initiatives constitute the core strategy of the Alaska Rural Systemic Initiative and are intended to generate a strengthened complex adaptive system of education for rural Alaska that can effectively integrate the strengths of the two constituent emergent systems. The exact form this integrated system will take remains to be seen as its properties emerge from the work that is underway. Accepting the open-endedness and unpredictability associated with such a change process, and relying on the emergent properties associated with the adage, "think globally, act locally," we are confident that we will know where we are going when we get there.

Cultural Intervention Strategies

The overall structure of the Alaska Rural Systemic Initiative is organized around the following cross-cutting themes that integrate the initiatives within and across each of the major cultural regions:

- 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
- Academies of Elders

Adopting the emphasis that these initiatives bring to engaging students in the study of culture, community and place, schools across the state have been engaged in common endeavors that unite them, at the same time that they are concentrating on particular initiatives in ways that are especially adapted to the Indigenous knowledge base in their respective cultural region. Each set of initiatives and themes have built on each other from year to year and region to region through a series of statewide events that bring participants together from across the regions. These include working groups around various curriculum themes, Academies of Elders, statewide conferences, the AKRSI staff meetings and the Alaska Native Knowledge Network. Following is a brief description of some of the key AKRSI-sponsored initiatives to illustrate the kind of activities that have been implemented, as they relate to the overall educational reform strategy outlined above.

Alaska Native Knowledge Network - A bi-monthly newsletter, web site and a culturally-based curriculum resources database have been established to disseminate the information and materials that have been developed and accumulated throughout Alaska (<http://www.ankn.uaf.edu>).

S.P.I.R.A.L. Curriculum Framework - The ANKN curriculum clearinghouse has been identifying and cataloging curriculum resources applicable to teaching activities revolving around 12 broad cultural themes organized on a chart that provides a "[Spiral Pathway for Integrating Rural Alaska Learning](#)." The themes that make up the S.P.I.R.A.L. framework are family, language/communication, cultural expression, tribe/community, health/wellness, living in place, outdoor survival, subsistence, ANCSA, applied technology, energy/ecology, and exploring horizons. These themes have also been used to formulate whole new curriculum frameworks that have been implemented in several schools and districts. The curriculum resources associated with each of these themes can be accessed through the ANKN web site.

Cultural Documentation/Atlas - Students in rural schools are interviewing Elders in their communities and researching available documents related to the Indigenous knowledge systems associated with their place, and then assembling the information they have gathered into a multimedia format for publication as a "cultural atlas." These initiatives have focused on themes such as weather prediction, edible and medicinal plants, geographic place names, flora and fauna, moon and tides, celestial navigation, fisheries, subsistence practices, food preservation, outdoor survival and the aurora. (<http://www.ankn.uaf.edu/NPE/oral.html>)

Native Educator Associations - Associations of Native educators have been formed in each cultural region to provide an avenue for sustaining the initiatives that are being implemented in the schools by the AKRSI. The regional associations sponsor curriculum development work, organize Academies of Elders and host regional and statewide conferences as vehicles for disseminating the information that is accumulated. A new statewide Alaska Native Education Association has been formed to represent the regional associations at a statewide level. (<http://www.ankn.uaf.edu/NPE/ANEA/>)

Native Ways of Knowing - Each cultural region has been engaged in an effort to distill core teaching/learning processes from the traditional forms of cultural transmission and to develop pedagogical practices in the schools that incorporate these processes (e.g., learning by doing/experiential learning, guided practice, detailed observation, intuitive analysis, cooperative/group learning, listening skills and trial and error).

Academies of Elders - Native educators have been meeting with Native Elders around a local theme and a deliberative process through which the Elders share their traditional knowledge and the Native educators seek ways to apply that knowledge to teaching various components of the curriculum. The teachers then field test the curriculum ideas they have developed, bring that experience back to the Elders for verification, and then prepare a final set of curriculum units that are pulled together and shared with other educators.

Cultural Standards Alaska Native educators have developed a set of "Alaska Standards for Culturally Responsive Schools" that provide explicit guidelines for how students, teachers, curriculum, schools and communities can integrate the local culture and environment into the formal education process so that students are able to achieve cultural well-being as a result of their schooling experience. In addition, a series of additional "guidelines" have been prepared around various issues to offer more explicit guidance in defining what educators and communities need to know and be able to do to effectively implement the Cultural Standards. (<http://www.ankn.uaf.edu/publications/standards.html>)

Village Science Curriculum Applications - Several volumes of village oriented science and math curriculum resources, including a "[Handbook for Culturally Responsive Science Curriculum](#)" (Stephens, 2000), have been developed in collaboration with rural teachers for use in schools throughout Alaska. They serve as a supplement to existing curriculum materials to provide teachers with ideas on how to relate the teaching of basic science and math concepts to the surrounding environment.

Culturally-based Education and Academic Success are Compatible

In August, 2005, the Alaska Rural Systemic Initiative completed its final year with a full complement of rural school reform initiatives in place stimulating a reconstruction of the role and substance of schooling in rural Alaska. Students are now spending more time out in the community with Elders, parents and local experts. School curricula are reflecting the knowledge, values and practices that have been a traditional part of life in the local communities. Teachers are incorporating a more place-based pedagogy that is engaging students in studies associated with the surrounding physical and cultural environment. The Alaska Standards for Culturally Responsive

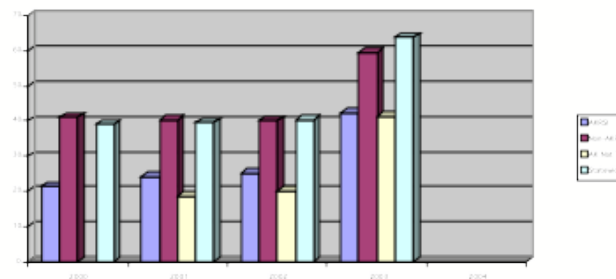
Schools developed by Alaska Native educators have been adopted by the State Board of Education side-by-side with the state subject area standards and have become a part of the lexicon of education in schools throughout Alaska.

The beneficial academic effects of putting students in touch with their own physical environment and cultural traditions through guided experiences have not gone unnoticed by school districts and other Native organizations around the state. One AKRSI school district has urged all of its schools to start the school year with a minimum of one week in a camp setting, combining cultural and academic learning with parents, Elders and teachers all serving in instructional roles. One school in the district has built in to their program a series of camp experiences for the middle school students, with a well-crafted curriculum addressing the state content standards as well as the cultural standards. Given the accountability demands of No Child Left Behind, a central question throughout all these educational innovations has been, what impact do they have on student academic achievement.

With the advent of the state standards-based Benchmark tests and the High School Graduation Qualifying Exam in 2000, we now have four years of data on student performance in the 8th and 10th grade math exams, from which we can make comparisons between AKRSI-affiliated schools and non-AKRSI schools for those two grade levels (AKRSI, 2004). Following are two graphs showing the percentage of students performing at the "advanced" or "proficient" levels on those exams.

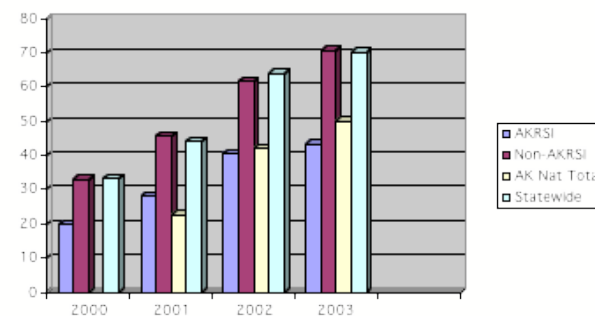
EIGHTH GRADE MATHEMATICS BENCHMARKS 2000/2001/2002/2003

% Rural Students as Advanced/Proficient



TENTH GRADE MATHEMATICS HSGQE 2000/2001/2002/2003

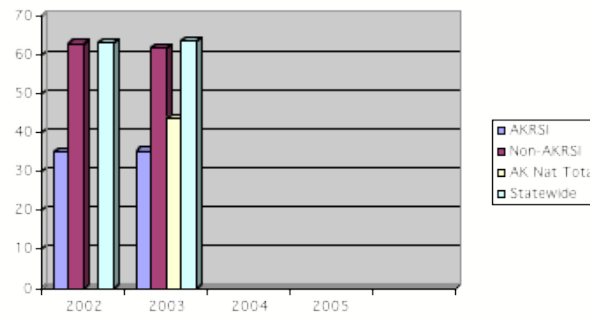
% Rural Students as Advanced/Proficient



The most notable features of these data are the significant increases in AKRSI student performance for both grade levels each year between 2000 and 2003. However, while the 8th grade AKRSI students showed significant progress in closing the achievement gap with their non-AKRSI counterparts from 20 to 17 percentage points, the 10th grade students in both groups showed a substantial gain from 2000 to 2003, leaving the achievement gap largely intact at that grade level.

NINTH GRADE MATHEMATICS TERRA NOVA/CAT-6 2002/2003

% Rural Students Scoring in Third and Fourth Quartiles



In addition to the state benchmark data, we also have norm-referenced test results for 9th grade students who have been taking the Terra Nova/CAT-6 since 2002. Though the differentials for each group between 2002 and 2003 remain small, the AKRSI students do show a slight increase in performance, while the non-AKRSI students reflect a small decrease in their performance over the two years.

The consistent improvement in academic performance of students in AKRSI-affiliated schools over each of the past four years leads us to conclude that the cumulative effect of utilizing the Alaska Standards for Culturally Responsive Schools to increase the connections between what students experience in school and what they experience outside school appears to have a significant impact on their academic performance.

Summary

The initiatives outlined above have demonstrated the viability of introducing strategically placed innovations that can serve as “catalysts” around which a new, self-organizing, integrated educational system can emerge which shows signs of producing the quality of learning opportunity that has eluded schools in Native communities for over a century. The substantial realignments that are already evident in the increased interest and involvement of Native people in education in rural communities throughout Alaska point to the efficacy of tapping into the cultural strengths of local communities in shaping reform in educational systems.

We are mindful of the responsibilities associated with taking on long-standing, intractable problems that have plagued schools in Indigenous settings throughout the world for most of the past century, and we have made an effort to be cautious about raising community expectations beyond what we can realistically expect to accomplish. Our experience over the past ten years has been such however, that we are confident in the route we chose to initiate substantive reform in rural schools serving Alaska’s Native communities, and while we have encountered plenty of problems and challenges along the way, we have been able to capitalize on a broadly supportive climate to implement changes that have benefited not only rural schools serving Native students, but have been instructive for all schools and students. We intend to continue to explore these ideas and find ways to strengthen the connection between school and community in the educational systems serving all segments of our society.

REFERENCES

[Most of the references cited in this article can be found on the Alaska Native Knowledge Network web site at <http://www.ankn.uaf.edu>]

Alaska Rural Systemic Initiative

2004 *Annual Report*. Fairbanks: Alaska Native Knowledge Network (<http://www.ankn.uaf.edu/arsi.html>), University of Alaska Fairbanks.

Barnhardt, Ray and A. Oscar Kawagley

2005 Indigenous Knowledge Systems and Alaska Native Ways of Knowing. *Anthropology and Education Quarterly* 36(1): 8-23. (http://www.ankn.uaf.edu/Curriculum/Articles/BarnhardtKawagley/Indigenous_Knowledge.html)

Barnhardt, Ray and A. Oscar Kawagley

2004 Culture, Chaos and Complexity: Catalysts for Change in Indigenous Education. *Cultural Survival Quarterly* 27(4): 59-64. (<http://www.ankn.uaf.edu/Curriculum/Articles/BarnhardtKawagley/ccq.html>)

Barnhardt, Ray and A. Oscar Kawagley

1999 Education Indigenous to Place: Western Science Meets Indigenous Reality. In *Ecological Education in Action*.

Gregory Smith and Dilafruz Williams, eds. Pp. 117-140. New York: State University of New York Press.
(<http://www.ankn.uaf.edu/Curriculum/Articles/BarnhardtKawagley/EIP.html>)

Boyer, Paul

2005 Alaska: Rebuilding Native Knowledge. In *Building Community: Reforming Math and Science Education in Rural Schools*. Paul Boyer. Washington, D.C.: National Science Foundation.

Kawagley, A. Oscar

1995 *A Yupiaq World View: A Pathway to Ecology and Spirit*. Prospect Heights, IL: Waveland Press.

Napoleon, Harold

1991 *Yuuyaraq: The Way of the Human Being*. Fairbanks: Center for Cross-Cultural Studies, University of Alaska Fairbanks.

Stephens, Sidney 2000 *Handbook for Culturally Responsive Science Curriculum*. Fairbanks: Alaska Native Knowledge Network(<http://www.ankn.uaf.edu/handbook/>), University of Alaska Fairbanks.



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