

Indigenous Knowledge Systems Research Colloquium January 20-22, 2005



Hosted by:

Alaska Native Science
Commission

www.nativescience.org &

University of Alaska
Fairbanks

(Funding from National Science Foundation)

Purpose

- To convene an international, interdisciplinary and cross-cultural network of scholars to assess our current state of knowledge.
- To develop a proactive research agenda aimed at extending our understanding of the processes of learning that occur within and at the intersection of diverse world views and knowledge systems.

Colloquium Team Members

- | Participant | Organization |
|-------------------------|---------------------------------------|
| • | |
| • | |
| • Abraham, Elaine | Ak Native Science Comm, Board Chair |
| • Archibald, Jo-Ann | University of BC, Educational Studies |
| • Barnhardt, Raymond | Univ. of Ak Fairbanks |
| • Begaye, Tim | Arizona State Univ., College of Educ. |
| • Cochran, Patricia | Ak Native Science Commission |
| • Colorado, Apela | Worldwide Indigenous Science Network |
| • Duran, Phil | New Mexico |
| • Huntington, Orville | US Fish & Wildlife, ANSC Vice Chair |
| • James, Keith | Colorado State University |
| • Kawagley, Oscar | Univ. of Ak Fairbanks |
| • Marker, Michael | University of BC, Educational Studies |
| • Mercurieff, Larry | Ak Native Science Commission |
| • Nelson-Barber, Sharon | Culture & Lang in Educ Rsrch, West Ed |

Why? – Paradigm Shift

- Indigenous people throughout the world have sustained their worldviews and knowledge systems for millenia while undergoing major social upheavals and outside forces.
- Core values and beliefs have survived and are being recognized as having complex knowledge systems with adaptive integrity.
- Depth of indigenous knowledge offers lessons that can benefit everyone in sustaining ways of life, communities and Mother Earth.

SURFACE CULTURE

FOLK CULTURE

- fine arts •
- storytelling • drumming
- subsistence • dancing •
- games • cooking • dress

- weather forecasting • animal behavior •
- navigation skills • observation skills • pattern recognition •
- seasonal changes/cycles • edible plants / medical knowledge •
- star knowledge / constellations • language / terminology/concepts •
- counting / measurement / estimation • clothing design/insulation • tools/
- technology • building design/materials • transportation • genealogy •
- waste disposal • fire/heating/cooking • hunting / fishing / trapping • weapons •

AND MUCH, MUCH MORE . . .

DEEP CULTURE

What is TK?

- It is practical common sense based on teachings and experiences passed on from generation to generation.
- It is knowing the country. It covers knowledge of the environment - snow, ice, weather, resources - and the relationships between things.
- It is holistic. It cannot be compartmentalized and cannot be separated from the people who hold it. It is rooted in the spiritual health, culture, and language of the people. It is a way of life.

TK

- Traditional knowledge is an authority system. It sets out the rules governing the use of resources - respect an obligation to share. It is dynamic, cumulative, and stable. It is truth.
- Traditional knowledge is a way of life -wisdom is using traditional knowledge in good ways. It is using the heart and the head together. It comes from the spirit in order to survive.
- It gives credibility to the people.

Western Science & IK Converge

- Indigenous societies have long sought to understand the irregularities in the world around them, recognizing that nature is underlain with many unseen patterns of order.
- For example Alaska Native people have had to learn to decipher and adapt to the constantly changing patterns of weather and seasonal cycles. The Native elders have long been able to predict weather based upon observations of subtle signs that presage what subsequent conditions are likely to be.
- With fractal geometry, holographic images and the sciences of chaos and complexity, the western thought-world has begun to focus more attention on relationships, as its proponents recognize the interconnectedness in all elements of the world around us.
- There is a growing appreciation of the complementarities that exists between what were previously considered two disparate and irreconcilable systems of thought.

**Traditional
Native
Knowledge**

- holistic
- includes physical & metaphysical world linked to moral code
- emphasis on practical application of skills and knowledge

- trust for inherited wisdom
- respect for all things

- practical experimentation
- qualitative oral record
- local verification
- communication of metaphor & story connected to life, values, and proper behavior

- integrated and applied to daily living and traditional subsistence practices

Western Science

- part to whole

- limited to evidence and explanation within physical world
- emphasis on understanding how

- skepticism

- tools expand scale of direct and indirect observation & measurement
- hypothesis falsification
- global verification
- quantitative written record
- communication of procedures, evidence and theory

- discipline-based
- micro and macro theory (e.g. cell biology & physiology, atomic theory, plate tectonics, etc.)
- mathematical models

**Common
Ground**

*Organizing
Principles*

- universe is unified
- body of knowledge stable but subject to modification

Habits of Mind

- honesty, inquisitiveness
 - perseverance
- open-mindedness

Skills and Procedures

- empirical observation in natural settings
 - pattern recognition
- verification through repetition
 - inference and prediction

Knowledge

- plant and animal behavior, cycles, habitat needs, interdependence;
 - properties of objects and materials;
 - position and motion of objects;
 - cycles and changes in earth and sky

Research Themes

- **Native Ways of Knowing/Indigenous Epistemologies**
- **Culturally Responsive Pedagogy/Contextual Learning**
- **Ethno-mathematics**
- **Indigenous Language Learning/Sociolinguistics**
- **Cross-Generational Learning/Role of Elders/Camps**
- **Native Science/Sense-Making**
- **Place-based Education**
- **Culture, Identity, Neuro-Cognition, and Learning**
- **Ceremonies/Rites of Passage**
- **Indigenizing Research in Higher Education**
- **Oral Tradition, Storytelling and Learning**
- **Technologically Mediated Learning**
- **Cultural Systems, Complexity and Learning**
- **Adult/Community Ed/Childcare Workforce Development**
- **Climate Change**

Outcomes

- Develop an international and interdisciplinary research center that will contribute to our understanding of the relationship between indigenous ways of knowing and those associated with western society and formal education.
- Devise a system of education for all people that respects the epistemological and pedagogical foundations provided by both indigenous and western cultural traditions.
- The research agenda will advance our understanding of learning as it occurs in diverse cultural contexts by exploring the interface between indigenous and western knowledge systems, drawing on the experiences of indigenous peoples from around the world.
- The expansion of the knowledge base associated with learning and indigenous knowledge systems will contribute to an emerging international body of scholarly work regarding the critical role that strategic utilization of the local cultural context can play in fostering academic success in learning, particularly among indigenous populations.

When an elder dies, a library burns

