

# Native American Children: World Leaders in Learning and Innovation in the 21<sup>st</sup> Century!

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*To teach, you must understand  
the nature of those you teach.*



# **ESSENTIAL LEARNINGS**

***Cultural Understanding, Sensitivity, Respect, and Hope are Cardinal Directions for Native American Student Advocates.***

***Reject Deficit-Model “Catch Up ” Instruction  
in Favor of Strength-Based Programming.***

***Strength-Based Programming Springs from Respect for the Visual-Spatial Learning Style of Almost 80% of All Native American Children.***

***Visual-Spatial Learning, Woven With Relevant 21<sup>st</sup> Century Technologies,  
Results in Native American Students Helicoptering Ahead.***

***THE RESULT - Leaders and Innovators for the 21<sup>st</sup> Century!***



*Cultural Understanding,  
Sensitivity,  
Respect,  
and Hope*

*The Cardinal Directions  
for Native American Student  
Advocates.*

# *Diversity of Native Americans*

## *Major Differences*

- ◆ Over 2500 separate tribes in North America.
- ◆ Ten Cultural Groups: Arctic, California, Great Basin, Great Plains, Northeast, Northwest Coast, Plateau, Southeast, Southwest, Subarctic.
- ◆ 29 Separate Linguistic Groups: Representing more than 296 different indigenous languages and hundreds of dialects.

# Native American Tribes

Published by  
Children's Publications  
Chicago, North Carolina







# *N American Indigenous Linguistic Groups*





# *Thoughts from the Coeur d'Alene Tribe*

Courtesy of Gary Dorr

## *Visual-Spatial Learners*

**All Native populations share a common trait of spatial learning. Native Americans learn better spatially.**

# *One Common Language*

Over 500 different, diverse, separate nations exist on soil that is now the United States, and they all share a common language

## *The Spatial Language*

Gary Dorr, Coeur d'Alene Tribe

# *Circular Non-Linear Thinking*

Indian thinking  
is visual and circular  
in philosophy.



Dr. Donald Fixico  
Muscogee Creek  
The American Indian Mind in a Linear World



# *Circular Non-Linear Thinking*

- “As a result of a different hemispheric orientation of the thinking mind, the brain of the American Indian developed with an orientation to circular thought and the brain of the Euro-American developed with an orientation to linear thought.”



Dr. Donald Fixico  
Muscogee Creek

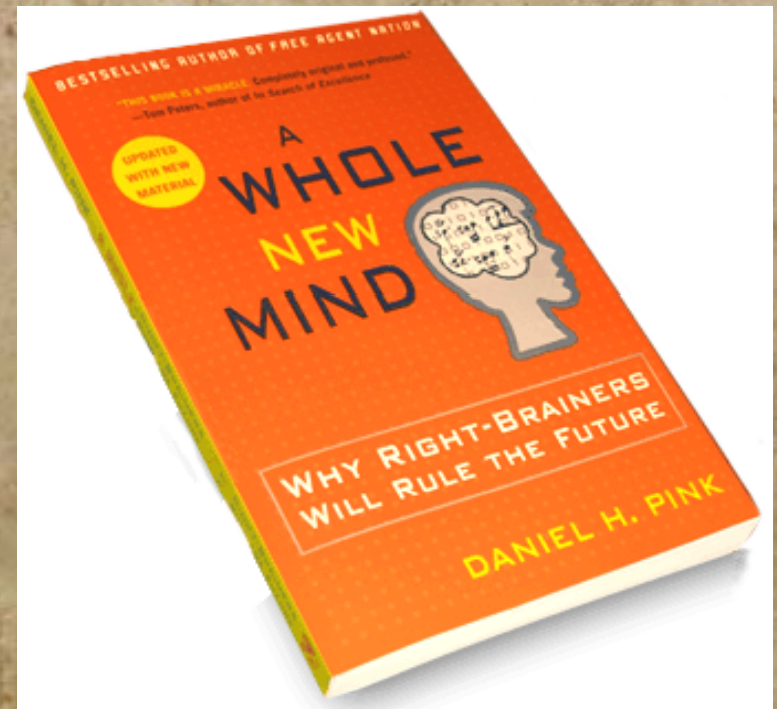
The American Indian Mind in a Linear World

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# *Native American Visual-Spatial Thinking: A Celebration!*

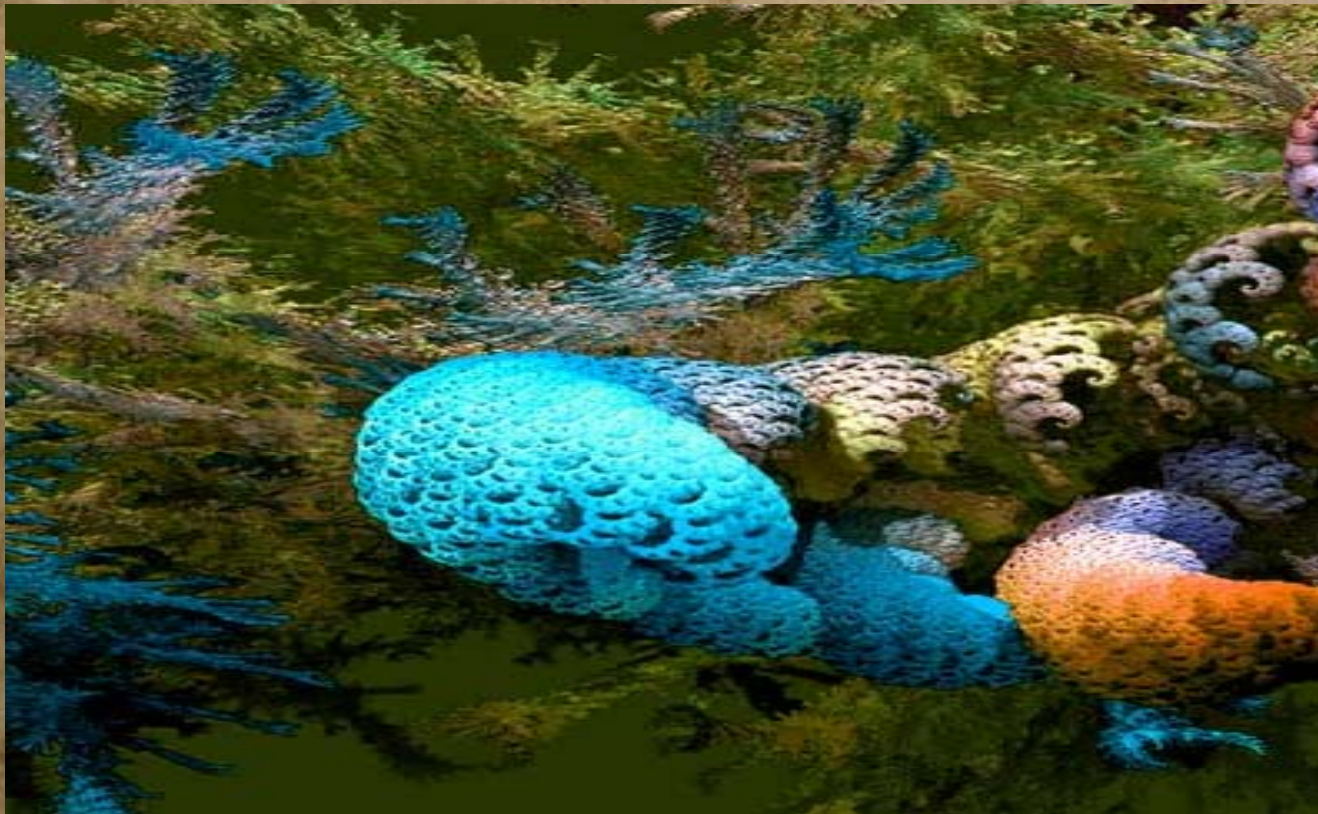
- The world is becoming increasingly focused on non-linear, visual-spatial thinking:
  - Information and concept acquisition;
  - Processing, analysis, and synthesis;
  - Communication.





# *Native American Visual-Spatial Thinking: A Celebration!*

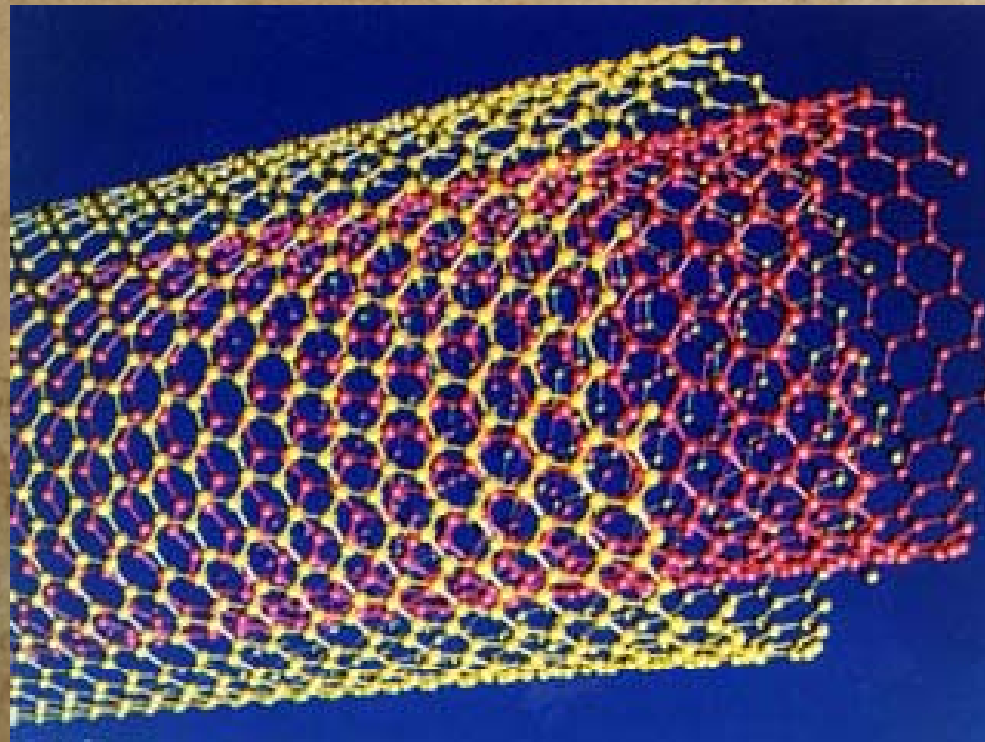
- New breakthroughs, new careers, and even whole new fields in the 21st century will spring from visual-spatial thinking!





# *Native American Visual-Spatial Thinking: A Celebration!*

- Native American kids are uniquely positioned to take advantage of those breakthroughs, and even to lead them!



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*Visual-Spatial Learning, Woven  
With Relevant 21<sup>st</sup> Century  
Technologies,  
Results in Native American Students  
Helicoptering Ahead.*



# Technology: Tool of the 21st Century

- Technology - the breakthrough tool, the “Clovis Point,” of mankind’s next age.
  - To “visualize” things as they can be!
  - To “see” things no one has yet thought of!
  - To “grasp” connections where others see only separate thoughts!





# *Clash of Cultures*

When non-Native teachers teach a linear sequential way,



they impose their culture and disregard the students' culture.





# *Through a Visual-Spatial Lens*

- ◇ Study three different indigenous groups:
  - Imbedded “town” culture on the Navajo Reservation in northern Arizona
  - Sprawling urban districts in the Denver Metro Area
  - Urban aboriginal First Nations in Ontario

# *Objective*

- ◇ To explore effective strategies for reaching these students.





# *Why these kids?*

- Large portion of the Native American student population in Page is visual-spatial.
- Widespread underperformance, where potential and performance are out-of-sync.
- Most teachers use auditory-sequential methods, even though these students learn in a visual-spatial way.
- Most teachers need help in learning how to differentiate for these children's strengths.

# *Visual-Spatial Kids*

- ◇ Significantly higher % for Navajo students:
  - 73% of Navajo students were visual-spatial.
  - 66% of non-Navajo students were visual-spatial.





***Reject Deficit-Model***  
***“Catch Up”***  
***Instruction in Favor of***  
***Strength-Based***  
***Programming.***



# DEFICIT “CATCH UP” MODEL

QuickTime™ and a  
decompressor  
are needed to see this picture.



# ***Use Technology to “Helicopter” Ahead!***



# CATCHING UP WITH THE “RUNAWAY” TRAIN

QuickTime™ and a  
decompressor  
are needed to see this picture.



# *Jefferson County Public Schools Colorado*

- 86,000 students
- Over 1,000 Native American students (1.1%)



# *VSL Comparisons of Native American Children*

## Percentages of Visual-Spatial Learners

**Mainstream**

**64-68%**

**Native American**

**73-80%**

**New technologies put visual-spatial tools in the hands of these leaders of the 21<sup>st</sup> century.**



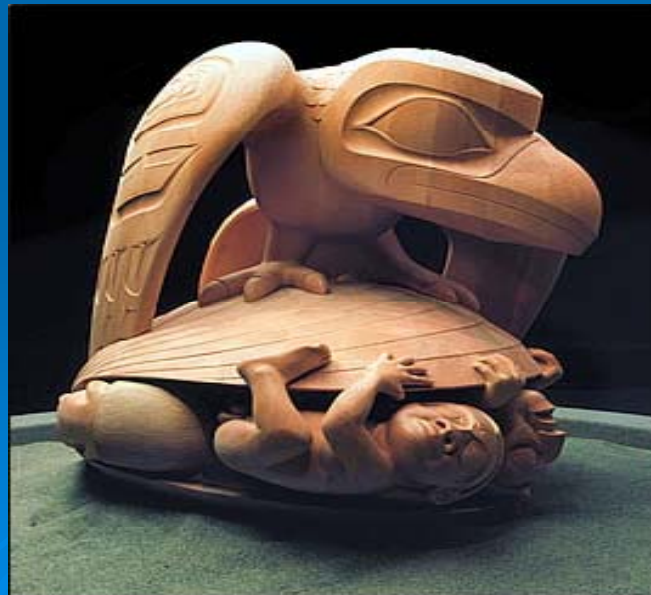
# *Other Urban Settings*

## **Ontario First Nations** (Canada)

Urban Aboriginal Task Force Final Report, June 2007

### Key Findings:

“Learning style(s) was mentioned as an important issue affecting Aboriginal education. Aboriginal children tend to have (a) **visual-spatial learning style** which is different than non-Aboriginal children and are often alienated by the prevailing teaching styles.”



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## *Key Findings continued...*

“Teachers do not understand important, and often subtle needs, behaviors, and experiences of their Aboriginal students, **including different learning styles**, speech patterns, ways of expressing themselves linguistically, intergenerational shame, special needs, prior learning gaps, and geographical barriers.”



# *Alienation and Disengagement*

“Native American children in mainstream schools may begin to disconnect as early as kindergarten, with most running into serious problems by mid-3rd grade. They completely disengage during 7th and 8th grade, so that by the time they enter high school, the decision to drop out has already been made and they are simply marking time until their 16th birthday.”

Communication from Suzy Kies

First Nations of Ontario, Canada

July 1, 2007



# *Graduation Rates*

According to Education Week, the graduation rate in 2004 for Native Americans from high school in the United States was less than half :

White	76.2%
African-American	53.4%
Hispanic	57.8%
Asian	80.2%
Native American	49.3%





# *American Indian Genius*

“A person steeped in traditionalism of his or her people relating to values of the tribal community, and the manifestation of individual expression through individual actions of the person who represents deep inner thought on a frequent basis that also enlighten one’s family, relatives, and community.”



Dr. Donald Fixico  
Muscogee Creek

The American Indian Mind in a Linear World

# *Meeting the Needs of VSLs in Page*

- ◇ Learning profile information in every student's permanent file.
- ◇ In-service workshops for all teachers at all grade levels.
- ◇ Teachers teams for visual-spatial learning techniques.
- ◇ On-going acquisition of visual-spatial profile information on all students, especially at the beginning of 3<sup>rd</sup> grade.
- ◇ Appropriate strategies need to be incorporated into intervention plans.
- ◇ Appropriate classroom strategies need to be implemented with visual-spatial students.
- ◇ Sharing of learning profile information with teachers, administrators, and student study teams.



# *What to Expect from a VSL*



You mean to tell me  
that you can do this  
complex math problem,  
but you can't tell me  
what day follows Tuesday?



# *What Can A Teacher Do?*





***Strength-Based Programming Springs  
from Respect for the Visual-Spatial  
Learning Style of Almost 80% of All  
Native American Children.***



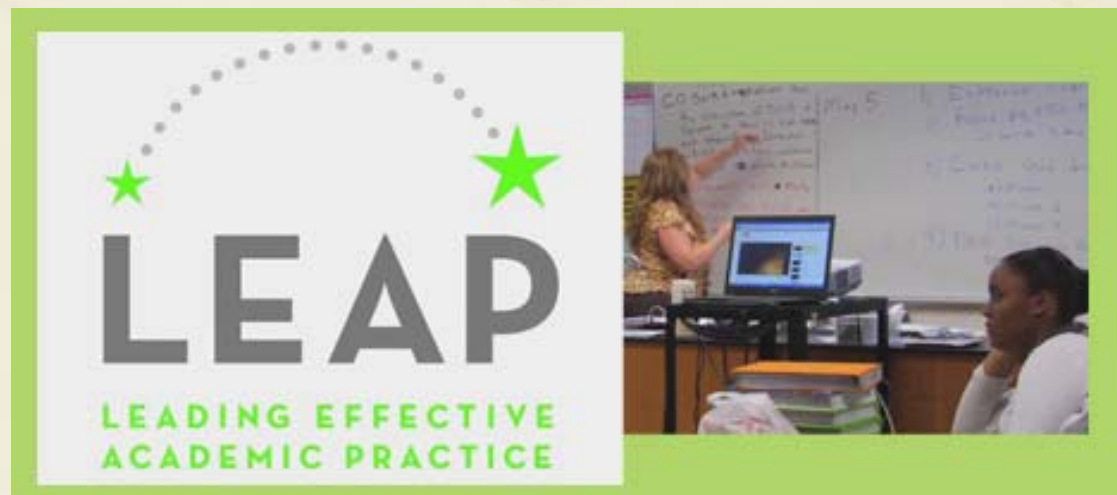
<http://youtu.be/8jiziUo6mGs>



# Technology Breakthroughs...

## What Works for Our Kids!!!

- Leading Effective Academic Practice (LEAP) Evaluation System
- Gates Foundation Grant Pilot
- DPS Framework for Effective Teaching





# LEAP Indicators

- I-14: Provides opportunities for *creativity, innovation, problem-solving, and critical thinking*
- I-15: Provides opportunities for *communication and collaboration among students*

# *Authentic 21<sup>st</sup> Century Tasks for Our Visual-Spatial kids*

- Website Development
- Video
  - Digital Storytelling
  - “Live” broadcasts
- Project-Based Opportunities





# Website Development

## Website Basics

Etiquette, Design,  
Navigation

2010 Native American Museum &  
Technology Workshop



*Native Science @ DMNS—A Pilot*

## Creation of Google Sites

<https://sites.google.com/site/dmnscheyenne/home>

## Sites to Include:

Tribal Research/Video Projects/Other Projects

# *Video Production*

## Digital Storytelling

- Connects generations
- Honors heritage, ancestors, family
- Leaves a family record
- Keeps stories alive



## "Live" Broadcasts

- Leaves a legacy at Merrill
- Awareness of potential career opportunities



# *Project Based Opportunities*

Leaving a Legacy  
at Merrill



Tribal Flags Displayed at the School

Design/Scheduling/Coordination with Admin/Ceremony

Outdoor  
Classroom





# 21<sup>st</sup> Century Learning Goals

Student Engagement

Strength-Based  
Programming

Access to Opportunities

Self Esteem/Self Efficacy/  
Self Advocacy



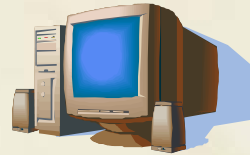
# Teaching Techniques for Visual-Spatial Learners

Color !!!



Image  
Projection

Computers



Graphing  
Calculators



Videos, YouTube,  
and DVDs



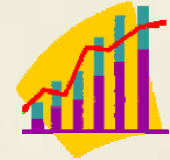
Movies



Slides



Charts and  
Diagrams



Drawings



Demonstrations



Visual Clues

QuickTime™ and a  
decompressor  
are needed to see this picture.

Thinking Maps



***The Result -  
Leaders and Innovators for  
the 21<sup>st</sup> Century.***



# *Making Evaluation Fair*



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# *Assessment Biases*

- For some students, assessment reinforces cultural norms; for others, it violates them.
- Assessment tools put some students at a disadvantage.
- Not all cultures train their children to demonstrate knowledge by answering questions on command.
- Not all cultures and environments value the same skills and knowledge.

Courtesy of Suzy Kies  
First Nations of Ontario, Canada

# *Two Cultures for Testing*

## **Contemporary Majority American Values:**

- Individual, competitive, written, timed, immediate, analytical, verbal, linear, sequential

## **Traditional Native American Values:**

- Cooperative, group, shared, oral, anonymous, humble, private, patient, holistic, non-verbal, delayed response, visual, circular, inclusive

“Gifted Education for Native American  
Students: A State of Affairs”

American Educational Research Association Roundtable  
Atlanta, April 15, 1993



# *Are Assessments Reliable?*

Even when we use visual-spatial testing techniques, we can run into trouble. The word below describes one of the witches in the “Wizard of Oz.” Which one?

V I C K E D

## *Assessment Reliability continued...*

Now try this one.

This word describes Coyote on his naming day.

What word is half shown here?

V I I V A A

# Answer:

- **WIIKAA – Ojibway for “late”**



# *The Test*

- Use untimed tests whenever possible.
- Reframe testing as a learning aid rather than an evaluation.
- Provide positive feedback.
- Present corrections as an alternative way to solve problems.
- Allow alternative ways of answering test questions.
- If timing is essential, provide a familiar, quiet, individual testing area.
- Provide multiple choice options for spelling.
- Provide someone to assist with the physical act of writing for essay tests.

Adapted for use from Suzy Kies  
First Nations of Ontario, Canada

# *Many Paths*



*Within the people called  
Native American, expect  
and respect the wide  
diversity of hundreds of  
different cultures, each  
with its own path.*