



# Developing Minds 2020 | CONFERENCE

Connect Creative with Critical Thinking  
in the Classroom

AFTERNOON SESSIONS: CIRCE PANEL

THE ROLE OF IMAGINATION AND COGNITIVE TOOLS  
IN DEVELOPING CREATIVE AND CRITICAL THINKING

Panelists:

Judy Dabideen-Sonachansingh

Michael Datura

Kavita Hoonjan

James Johnson

Tim Waddington





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## **SMALL POX – GENOCIDE OF ORAL CULTURES – SIMULATION MODEL | Tim Waddington**

### **BIG IDEAS**

**(Grade 4)** Interactions between First Peoples and Europeans lead to conflict and cooperation, which continues to shape Canada's identity.

**(Grade 5)** Canada's policies and treatment of minority peoples have negative and positive legacies.

**(Grade 6)** Economic self-interest can be a significant cause of conflict among peoples and government.

**(Grade 8)** Exploration, expansion and colonization had varying consequences for different groups.

**(Grade 10)** Historical and contemporary injustices challenge the narrative and identity of Canada as an exclusive, multicultural society.

**(Contemporary Indigenous Studies 12)** Indigenous peoples are reclaiming mental, emotional, physical, and spiritual well-being despite the continuing effects of colonialism.

**(Genocide Studies 12)** The intentional destruction of peoples and their cultures is not inevitable, and such attempts can be disrupted and resisted.

### **CORE COMPETENCIES (possible examples)**

**Personal Awareness and Responsibility** – I can participate in classroom and group activities to improve the classroom, school, community and natural world.

**Social Responsibility** – I can share my ideas and accomplishments, and accept responsibility for my actions.

**Critical Thinking** – I can use observation, experience and imagination to draw conclusions and make judgements.

### **CURRICULAR COMPETENCIES (possible examples)**

I can differentiate between intended and unintended consequences of events and decisions.

### **KNOW DO UNDERSTAND (What will success look like?)**

**Know** – Learn about oral cultures and pre-contact First Nations societies on the Prairie; learn the calamitous effects of disease on Indigenous societies.

**Do** – Work collectively to narratize experiences; reflect upon one's role within a larger community.

**Understand** – That cultural loss is both individually and collectively experienced/suffered.

### **BIG SIX HISTORICAL THINKING CONCEPTS**

Cause and Consequence

Continuity and Change

The Ethical Dimension of History

### **UDL – UNIVERSAL DESIGN FOR LEARNING (low floor, high ceiling)**

Invitational, oral structure; small and whole group conversational design.

### **FIRST PEOPLES' PRINCIPLES FOR LEARNING**

Learning is holistic, reflexive, reflective, experiential, and relational.  
Learning recognizes the role of Indigenous knowledge.  
Learning is embedded in memory, history and story.  
Learning involves recognizing the consequences of one's actions.



## COGNITIVE TOOLS OF IMAGINATIVE EDUCATION

**Story Form** – Orality; creating an emotional arc to the lesson.

**Personal Narratives** – Students express and understand their contributions to traditional FN societies.

**Metaphor** – The rear side of a traditional drum as the relational interdependence of FN communities.

**Vivid Mental Images** – In establishing a setting; the smallpox image reveal.

**Somatic Awareness/Bodily Senses** – At the smallpox 'reveal' and the onset of loss.

**Abstract Binary Opposites** – Abundance - Loss; Interdependence - Isolation; Life - Death.

**Jokes and Humor** – In building community skill set.

**Change of Context** – Interactive lesson, imaginatively situated elsewhere.

**Extremes and Limits** – The violence of smallpox; the extent of loss (80%).

**Heroic Qualities** – Of each student as well as the collective.

**Humanization of Meaning** – Comprehending the extent of cultural loss.

## INSTRUCTIONAL SEQUENCE

**Set the time machine** – Back to a semi-nomadic community; Blackfoot; circa 1820s; oral society; land-based skills; immediately *pre-contact* with European settlement.

**Invoke the metaphor** of the traditional FN drum; every person an interdependent thread contributing to the strength and integrity of the instrument (focused on the 'knot').

**Think-Pair-Share** – Everyone determines three traditional (non-anachronistic) skills that they actually possess now but would be useful to a traditional community (then).

**Gather twenty volunteers** (each receives a unique marker, such as a playing card).

**Twenty volunteers report their skills**, during which time students clarify and extend accurate historical knowledge to understand traditional FN society.

**Identifying missing skills**, necessary to the community's integrity and survival.

**Chance to adapt** the three reported skills of the volunteers (as necessary/possible)

**Reveal image of smallpox child** – Briefly discuss smallpox, symptoms, geography, fatalities, etc.

**Randomly cross out 80% of volunteers** (by name, predetermined by their unique marker).

**Identify the remaining skills** and, more importantly, what essential skills are now absent.

**Emphasize the distinction** – Personal loss (i.e. a grandparent) and a communal/systemic loss.

**Invoke the metaphor** of the traditional FN drum; most threads are cut, the drum has lost integrity, irretrievably damaged (because an oral culture/intergenerational memory losses).

**Back to the Present** – Situate smallpox into a larger conversation of cultural genocide: disease, legal systems, residential schools, voting rights, access to water, criminal justice systems, etc.

**"TEACHING AS STORY TELLING"**

**SMALLPOX IN THE SHAPE OF SHAKESPEAREAN TRAGEDY**



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**CLIMAX** – Image of smallpox child revealed

Checking for Sustainability

Gathering Skills

**SETTING** -  
Enter the time machine

**METAPHOR** – The integrity of the drum

**CONFLICT** – Driven by abstract binaries

Abundance  
Interdependence  
Life  
Hope

Loss  
Isolation  
Death  
Despair

**DENOUMENT** –  
Communal loss  
Destruction of oral culture  
Systemic violence  
Cultural genocide

80% Mortality Rate

**RISING ACTION**

**FALLING ACTION**

← ← **TIME** → →

# The Test | Kavita Hoonjan



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**Intention:** Our adult learners should learn about imaginative practice by living it and experiencing it; not just by learning *about* it.

**Topic:** Assessment and facilitating understanding for pre-service teachers

## Introduction:

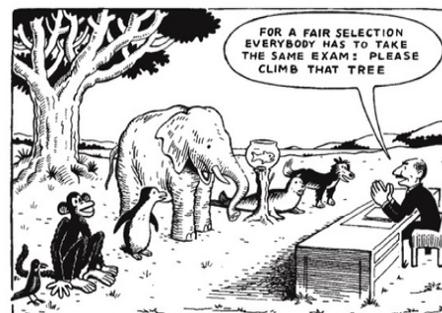
- Today is your first class on your first day of grade 12 in a brand new school (your family just moved to this city). (*role play – students*) Walk them through a visualization of coming to school on the first day, walking through the hallways, etc. (*engaging emotions, images in the mind's eye*)
- We're going to start with a test to get a sense of what you are able to do independently
- Here is what you need to do for this test (when I say 'go') **Show one statement at a time**
- Write your name in FULL (first, middle, last).
  - Write today's date in FULL.
  - Write this sentence: *The sun is shining on the treetops, while the birds sing merrily.*
  - Name TWO *Beatles* songs.
  - Draw an apple tree beside a house
- **After the last statement, announce that this all needs to be done with their non-dominant hand and they have 3 min followed by "GO!"** (*engaging feelings of pressure, uncertainty, confusion, etc. emotion*)
- After 3 min: Pass your test paper to the person on your right to mark for **accuracy, neatness and legibility** (2 points per question for a total of 10 marks).

## Discussion:

- How did you feel? (before the test, during and after?)
- What assumptions had you made?
- How did you feel about being evaluated? About being subjected to this evaluation?
- Did you mark differently because of having lived this test experience yourself?
- Based on your experience today, find a metaphor for what assessment is/should be. (*metaphor*) (follow up with this next class)

## Conclusion:

- What do you believe this experience to be about – why did we do it?
- The Latin root for assessment is "assidere" which means "to sit beside".
- Assessment is not something we DO to our learners; it is something we do WITH our learners (all our learners) after having set them up for success.
- Finish with the following cartoon (*humour*):





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## **FROM DRAB TO FAB IN 5 MINUTES | Judy Dabideen- Sonachansingh**

**(Using 5 Cognitive Tools in High School Science)**

This is a demonstration of how an ordinary, standard lesson can be turned into an imagination catalyst, by employing Cognitive Tools. Even without knowledge of Dr. Kieran Egan's Theory of the Educated Mind, these Cognitive Tools will be easily accessible and will seem familiar. We have probably all used these tools in our thinking, whether intentionally or by accident. As Imaginative Educators we search the content of our teaching deliberately for the Cognitive Tools that will make what we are teaching imaginatively engaging.

Now I am sure we have all learned dull, plodding things in our lifetime. The key difference in learning imaginatively is that the learning is far more efficient and long-lasting when it is done using Cognitive Tools. I offer here an example of how this may be done in a High School Science class.

I will use the Cognitive Tools of

- Binary Opposites
- Generalization
- Extremes and Limits
- Humanization of Meaning
- Sense of Agency

To turn a familiar “worksheet” type lesson into an Imaginative lesson that taps into students’ emotional engagement with their world.

Judy Dabideen-Sonachansingh

Retired Chemistry Teacher



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## FROM DRAB TO FAB IN 5 MINUTES

Using 5 Cognitive Tools in High School Science

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## Lesson Introduction

- What Cognitive Tools can I use to get students to think imaginatively about the Carbon Cycle? (**Generalization**)
- Binary Opposites
- Generalization
- Extremes and Limits
- Humanization of Meaning (“Juice”)
- Sense of Agency

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## My Dilemma

- The Principal just asked me to cover a colleague’s class
- My colleague left photocopied worksheets on the Carbon Cycle
- Should I plan and use my own lesson or just give the worksheet? (**Binary Opposites – daring/safety**)

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## Lesson Activities

- Discussion: Today, we are living the negative consequences of breaking the Carbon Cycle. Now that we know better, how can we do better?
- With your skeleton Carbon Cycle provided, discuss areas of opportunity to close the Carbon Cycle.
- How can we enhance existing Carbon Sinks (or reservoirs)?
- When Carbon is on the move, via carbon dioxide, it is no longer part of the Carbon Cycle. How can Carbon Capture Technology be used to fix what we broke? (**Extremes and Limits; Sense of Agency**)

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## References

- Egan, K.: The Educated Mind
- Karsteneig.no “Adventures in Geology – Karsten Eig”

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### Imaginative Ecological Education: Role of Cognitive Tools in Enriching Place-Based Education

Michael Datura --- <https://sfu.academia.edu/MichaelDerby>

↳ *Place, Being, Resonance: A Critical Ecohermeneutic Approach to Education* ---  
<https://www.peterlang.com/view/title/22686>

↳ *Wild Pedagogies: Touchstones for Re-Negotiating Education & the Environment in the Anthropocene* --- <https://www.palgrave.com/us/book/9783319901756>

**Place -Based Education PBE)** --- From: *Glossary of Curriculum Terms in the New BC Curriculum*  
“Place is any environment, locality, or context with which people interact to learn, create memory, reflect on history, connect with culture, and establish identity. The connection between people and place is foundational to First Peoples perspectives of the world.”

From *Engaging Imagination in Ecological Education* (IEE)--- Gillian Judson

“In a general sense, places are the meaningful contexts of human perception of, and participation in, the world. They are meaningful because they evoke emotional response; we *feel* something about them. As we observe and participate in the activities of daily cultural life, and as we make sense of our experiences, the spaces where we are and the contexts we find ourselves in take on meaning. —I might interject here and say rather they *can* take on meaning, but they often do not, particularly in schools—Sense of place refers to how we understand and relate to these contexts. It is made of interconnected emotional and intellectual dimensions; it takes shape around what we feel about place and what we know about place. Sense of place involves, thus, both a personal relationship with one’s context as well as a certain depth of knowledge about it.”

→ PBE & IEE Develops:

- 1) Feeling / Emotional Engagement
- 2) Activeness / Bodily Engagement
- 3) Sense of Place / Environmental Engagement

#### Practical Examples to Develop Sense of Place:

- **Microsite or Sit Spot in a Nutshell:** Find one place in the “natural world” that you are able to visit frequently and get to know it as a food friend. Let this be a place where you can learn to sit still—alone, often, and quietly—before you playfully explore beyond. This will become your place of intimate connection with nature.

↳ From: *Coyote’s Guide to Connecting with Nature*

- *A Walking Curriculum* (Gillian Judson) -- 30 Question-Guided Walks + Cognitive Tools

Ex 1: *Shapes Walk:* What geometric shapes can you find on your walk?

Collect & Organize: Do a tally of the shapes. How many of each can each group find?

Extension: Create a book with photographs or drawings of alphabetic shapes found outside.

Ex 2: *Growth Walks:* What is growing and alive in your schoolyard and the surrounding area?

Anything surprising?

Role Play: Imagine you are investigative reporters and report on the number and variety (or lack thereof) of living creatures and plants that share the schoolyard. Provide maps.