RESILIENCE TO A CHANGING CLIMATE THROUGH EDUCATION

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Goldbelt Heritage Inc.
Steps to improve resilience in communities

1. Green/Blue Infrastructure
2. Awareness, Information and Education
3. Design for Future Climate
4. Community Capabilities and Engagement
5. Planning for Weather

Most effective when there is community participation

Can be achieved by having an informed and educated public
Introduction

Resilience and adaptation is enhanced through education

An informed and educated public can promote responsible practices to improve resilience in communities in numerous sectors.
Purpose of my talk

Describe effective teaching styles and strategies to enhance science literacy and adaptations to climate change in Indigenous communities.

Image Credit: Geophysical Institute Information Office, public images google
Problem

Many Indigenous students can become disenfranchised with Western science for various reasons.
Methods

Important to Include elders and community members in educational and science activities
Objective: Frame concepts in Western science in a cultural context

School teachers meet with elders to plan classroom activities

Indigenous Stories

Western Science

Indigenous language, stories and traditions can now be connected to Western science
Additional expansions to this teaching style

Indigenous Stories  Western Science

Cultural Context

Place-based science learning

Food sharing of traditional foods

Traditional foods & food sharing

Traditional ways of food preparation

Cultural songs and dance included with food sharing

Western Science used to explain about bacteria in food

“hands-on learning activities”
Case study
Distinctive Education in Motion Biodiversity of Nature and Environmental Stewardship (Juneau, AK) (Dr. Shannon Atkinson)
Placing Western disciplines in cultural context is a very successful teaching style and used in educating Indigenous cultures worldwide.
### Ethnoscience

- Places the subject in cultural context
- Encourages alternate ways to understand a concept and promotes critical learning
- Concepts are relevant and meaningful outside academics
- Reduces alienation of students not belonging to the mainstream culture
- Provides opportunities for people having local knowledge to contribute and participate

( Owens, 2017 )

### Western Science

- Several abstract concepts
- No “default familiarity” can be considered irrelevant by students
- Doesn’t encourage alternate or diversity in learning
- Based on pre-determined formulas
- Culturally neutral

(Bishop, 1970)
1. Lesson Plan includes Indigenous science/knowledge

2. Community members participate: e.g., Parents, Elders, Family Members

3. Various cultural activities are included with the learning experience