Education for a Sustainable Future:
The Canada-Singapore & Canada-Qatar Climate Connection Projects

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**ABSTRACT**
Education is a vital component in confronting current and future challenges facing the environment, society and economy. Engaging the next generation in formulating viable solutions requires local to international collaborative efforts. Here we share two new collaborative efforts between groups of third-year university students and those who are half-way around the world, in Singapore and Qatar. The purpose of these pilot projects were to gain awareness, take action and reflect upon the issue of climate change. Groups of students first determined and implemented the best platform for communication. Then university students determined what it meant to be a Climate Literate person (http://www.climatescience.gov/Library/Literacy/) and taught this to their remote group members. A combined effort followed by answering what were the similarities and differences between climate and human impact in Canada versus Singapore and Qatar. The students then strategically developed, implemented and reflected upon an action plan to reduce human impact on climate change. Presented at: 2012 University of Toronto 7th Annual Teaching & Learning Symposium.

**WHAT IS CLIMATE SCIENCE LITERACY?**
An understanding of your influences on climate and climate’s influence on you and society.

**A CLIMATE-LITERATE PERSON:**
- understands the essential principles of Earth’s Climate system.
- knows how to assess scientifically credible information about climate.
- communicates about climate and climate change in a meaningful way.
- is able to take responsible actions with regard to actions that may affect climate.

**THE ESSENTIAL PRINCIPLES OF CLIMATE SCIENCE:**
- The Sun is the primary source of energy for Earth’s climate system.
- Climate is regulated by complex interactions among components of the Earth system.
- Life on Earth depends on, is shaped by, and affects climate.
- Climate varies over space and time through both natural and man-made processes.
- Our understanding of the climate system is improved through observations, theoretical studies, and modeling.
- Human activities are impacting the climate system.
- Climate change will have consequences for the Earth system and human lives.

**EXAMPLES OF HOW WE ACHIEVED CONNECTING ALL THREE...**

**Anti-idling Bus Campaign**
- Students connected science with local issue, took ownership & approached decision makers.
- Difficulties installing led to increased collaboration & further pursuit of knowledge.
- Students are capable of producing feasible solutions to real world problems, overcoming challenges & constraints.
- International Collaboration!

**PRINCIPLED**
Act with integrity and honestly with a strong sense of fairness and respect for self and the dignity of others.
- (integrity, honesty, responsibility, respect, fairness)

**RESILIENT**
Anticipate, persevere and confront challenge.
- (optimism, confidence, courage, diligence, perseverance)

**SELF-AWARE**
Develop intellectual, physical, spiritual and emotional balance to achieve personal well-being.
- (self-discipline, self-esteem, self-confidence, reflection)

**CONCERNED and COMMITTED**
Demonstrate a commitment to care.
- (stewardship, caring, empathy, compassion, openness)

**QUALITIES**

**SUSTAINABLE THINKER & PROBLEM SOLVER**
Think creatively to produce original works or to develop innovative ideas.
- (originality, imagination, curiosity, adaptability, connection, persistence, risk-taking)

**CRITICAL THINKER and PROBLEM SOLVER**
Think critically to produce original works or to develop innovative ideas.
- (inquiry, questioning, connection, analysis, synthesis, evaluation)

**COLLABORATIVE**
Work collaboratively in diverse settings to learn and lead by influence.
- (cooperation, participation, leadership, flexibility, adaptability, responsibility, trust)

**COMMUNICATOR**
Communicate effectively according to audience and purpose.
- (communication, interpretation, perspective, intent)

**SELF-MANAGER**
Take responsibility for managing and directing their own learning.
- (metacognition, independence, perseverance, diligence, organization, responsibility)

**SKILLS**

**MANAGER**
Take responsibility for managing and directing their own learning.
- (metacognition, independence, perseverance, diligence, organization, responsibility)

**ACTION PLAN**
Goal: Justify - Success Criteria - Steps Weekly Reflection Progress - Challenges - Changes Project Reflection Success - Barriers - Improvements

**WHAT DID THE FACILITATORS LEARN?**
- Assessment structure required (i.e. beginning-end attitude or reflective surveys).
- Front-load more subject content knowledge or provide more time for student teaching.
- Obtain extra resources (i.e. TAs to monitor activity & progress while providing feedback).
- Student connections with real-world issues & other students led to motivation and engagement.
- Students are capable of producing feasible solutions to real-world problems, overcoming challenges & constraints.
- Adjustments were often required to account for a time change and delay in communication.
- Set the spark, connect, and mentor. Provide the freedom to discover while providing feedback.