Launching a Co-produced Creative Climate Change Curriculum and Drawdown Solutions for Elementary Students

CLEAN meeting 11-10-20
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Plan for the presentation/conversation

• How this project came to be!
• The Co-produced Creative Climate Change Curriculum (5C)
• The Drawdown accessible adaptations
• Conversation about launching educational resources
  • Formal vs. informal?
  • Experience with past projects?
Youth Performance can inspire a community with hope for climate solutions
Start by watching the 2-minute trailer!

I promise, it will really help the rest of this make sense.

http://www.insidethegreenhouse.org/shine/index.html
The Story: Act 1
Act 2: Youth-Authored Skits of Local Solutions
K-12 Communication
Idea

Consultation with educators and administrators

Curriculum Pilot (Teacher and student feedback)

Team of Art, Science, and Education Experts

Curriculum Publishing and full implementation

Consultation with educators and administrators
Art/Science Partnership Co-Design Framework for the Creation of the Shine Curriculum

1. Stakeholder Engagement:
   - Teachers, administrators, and students in Jefferson County
   - CU Natural History Museum
   - Inside the Greenhouse/ENVS (CU)

2. Expert Engagement
   - Nationally Renowned Scientists
   - Education Experts
   - Artists and Musicians

3. Intentional Impact
   - Community Engagement
   - Youth as Authors of Knowledge and Initiators of Action
   - Actions for Resilience

4. Reflection (Iterative and durational)

But Also:

a. Have appropriate funding (So far: CU Office of Outreach and Engagement, ENVS, CU Natural History Museum)

b. Be realistic about time needed (lots! 4 years total for this project)

c. Respect the integrity of both the arts and sciences
Shine Curriculum Learning Goals:

Through lessons and activities in this curriculum students will:

- Understand the relationship between energy and climate
- Place the earth’s production of fossil fuels and the impact of human-use of fossil fuels into scale within the last 300,000,000 years of geological history
- Understand how our energy-use is impacting climate
- Engage in effective climate communication
- Understand that the arts can be used to communicate science

Participatory Performance Learning Goals:

- Embodied learning (See Abrahamson, 2004 for more on embodied learning benefits)
- Nuanced understanding of themes through physical participation in dramatic metaphors
- Youth empowerment
- Civic engagement
- Collaboration with others to effectively communicate youth-authored solutions to an audience
- Students take roles as authors of knowledge and partners in communication to the public
1st Curriculum Pilot:

4th/5th grade

4 teachers

Stober Elementary

Spring 2019

Lesson 1: Introduction

Description

To gain a sense of embodied expression, students will warm up through expressing concepts and ideas through movement. Then, the class will watch the full performance of Shine and discuss the performance in small groups.

Concepts

- Embodied expression is a unique and powerful form of communication (embodiment of concepts is beneficial to learners)
- Performance is one form of embodied communication and can be used to consider new ideas and lessons in a way that can be shared.

Outcomes

Upon completion of this lesson, students will be able to:

- Identify forms of embodied expression and consider what makes embodied expression unique
- Discuss Shine with peers in terms of the lessons and ideas it offers
Culminating Event, Earthday 2019
Celebrating, sharing, and sustaining what’s been created (engagement!)

http://www.insidethegreenhouse.org/shine/
Co-created 12 Lesson Set!
Providing context for students: https://www.drawdown.org/
Drawdown Adaptation Process

• Began as an effort in our Creative Climate Communication Class
• Piloted initial solutions at University Hill Elementary- a bilingual school in Boulder
• Continued the project with the class
• Moved into summer with Beth, Patrick, 2 Graduate, and 2 undergraduate interns
• Complete this winter (piloting in progress)
• Let’s take a look!
ABANDONED FARMLAND RESTORATION

12.5—20.3 GIGATONS

Why is it important to restore old farmland?
Our world population is growing. More people require more food. We can restore old farmland. That means we use abandoned farmland for farming once again. By restoring abandoned farmland we can:
- feed more people
- protect forests from being destroyed to make new farmland
- sequester (hide) more carbon dioxide in the roots, stems and leaves of plants to reduce greenhouse gases in the air

When old farmland is left alone, sometimes the soil erodes. When soil erodes and plants die, they release greenhouse gases, like carbon dioxide, into the air. If the land is restored for farming, the plants can once again hold greenhouse gases. They do this by sequestering (hiding) carbon in plant roots.

What does farmland restoration look like?
Restoration can mean many things. It might look like:
- introducing plants that are native to that area
- creating tree plantations
- using "regenerative," or very environmentally friendly, farming techniques

It is important for local governments to start programs that help farmers and landowners pay for regeneration and restoration. Otherwise, many farmers and landowners won’t be able to pay to restore their land.

SOLUTION REVIEW
Regenerative Farming

When abandoned farmlands are restored, they should become sustainable sites. Regenerative farming is a good sustainable alternative. It focuses on farming many different plants and animals, rather than just one plant, like corn, or one animal, like cows. Having many different plants and animals on the farm means the land can act as a carbon sink and will produce healthy fruits, veggies, and animal products like meat and dairy.

Photo Credits:
Growing more food: weng karon on Unsplash
Farms sequester carbon: elvis gardo / OIFOR
Measuring soil health: 2016 CNR / Georgia Stiles
What we’d like to ask:

• What are effective methods to launch a curriculum?
• What are effective ways to launch an education tool?
• Formal vs. Informal education outreach processes- what have others had success with?
• Conferences? Energy vs. return
• Targeted outreach