Building Resilience with Equitable Climate Change Education

Patricio Ku
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Triangle Associates, Inc.
Who We Are: Triangle Associates
Who We Are: Triangle Associates

Alexis Alloway

Patricio Ku
Who We Are: Education Team
What We Do: Triangle Associates

All-school theatrical assemblies
What We Do: Triangle Associates

Storytelling Programs
What We Do: Triangle Associates

Classroom Workshops
What We Do: Triangle Associates

Action Project Assistance
What We Do: Triangle Associates

Teacher Training & Toolkits
Fact or Fiction?

20% of teachers emphasize that recent global warming “is likely due to natural causes. . .”

Fiction!
Fact or Fiction?

30% of teachers emphasize that recent global warming “is likely due to natural causes. . .”
Fact or Fiction?

Fewer than half of science teachers report any formal college instruction in climate science.
Fact or Fiction?

Fewer than half of science teachers report any formal college instruction in climate science.

Fact!
Fact or Fiction?

Washington State received a “B” grade in how funding is equitably distributed among districts.

Fiction!
Fact or Fiction?

Washington State received a “C-” grade in how funding is equitably distributed among districts.
Wide gap between white and black kids in Seattle

Black students test three and a half grade levels behind white students in the Seattle school district, according to a new study. That ranks as the 5th biggest achievement gap among the nation’s 200 largest school districts.

<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>GRADE 3-8 ENROLLMENT</th>
<th>WHITE-BLACK ACHIEVEMENT GAP (IN GRADE LEVELS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 District of Columbia Public Schools</td>
<td>16,645</td>
<td>4.4</td>
</tr>
<tr>
<td>2 Atlanta Public Schools</td>
<td>23,061</td>
<td>4.2</td>
</tr>
<tr>
<td>3 Charleston 01</td>
<td>19,364</td>
<td>3.8</td>
</tr>
<tr>
<td>4 Oakland Unified</td>
<td>21,940</td>
<td>3.8</td>
</tr>
<tr>
<td>5 Seattle Public Schools</td>
<td>21,303</td>
<td>3.5</td>
</tr>
</tbody>
</table>
Fact or Fiction?

The world’s richest 10% cause 33% of global CO₂ emissions.

Fiction!
Fact or Fiction?

The world’s richest 10% cause **50%** of global CO$_2$ emissions.
Fact or Fiction?

Climate change more seriously impacts the health of low-income and communities of color compared to the rest of the population.
Fact or Fiction?

Climate change more seriously impacts the health of low-income and communities of color compared to the rest of the population.

Fact!
Goals for Today:

1. Understand why **equitable climate change education is needed** to build resilient communities.

2. Share **strategies** for teaching climate change to marginalized communities.
Why Schools?
Why Schools?
Why Schools?
Why Invest in Equitable Climate Change Education?

Climate Change is COMPLEX!
Why Invest in Equitable Climate Change Education?

If you don’t, somebody else will!
Why Invest in Equitable Climate Change Education?

- Inconsistencies
- Inadequate resources
Why Invest in Equitable Climate Change Education?

- Disappearing resources
Call to grassroots climate change education
Strategies

I. Know your audience
II. Speak the language
III. Build a personal connection
IV. Utilize models
V. Empower don’t discourage
I. Know your audience

Education: Not “One Size Fits All”
I. Know your audience

www.k12.wa.us
I. Know your audience
I. Know your audience

- Focus groups

- Ambassadors
II. Speak the language

Bilingual Programs
II. Speak the language

Choosing Languages:

B. Snohomish County Superior/Juvenile/District/Municipal Courts and Superior County Clerk’s Office

Snohomish County Superior/Juvenile/District/Municipal Courts and the County Clerk’s Office continue to make every effort to provide service to all LEP, deaf and hearing-impaired persons. The following list shows the non-English languages that are most frequently spoken at home in Snohomish County (in descending order of frequency):

- Spanish
- Russian
- Vietnamese
- Ukrainian
- Korean
- Arabic
- Tagalog
- Chinese
- Cambodian
- Punjabi

Student Demographics

<table>
<thead>
<tr>
<th>Enrollment</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>October 2016 Student Count</td>
<td>718</td>
</tr>
<tr>
<td>May 2017 Student Count</td>
<td>762</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender (October 2016)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>377</td>
</tr>
<tr>
<td>Female</td>
<td>341</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/Ethnicity (October 2016)</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Hispanic / Latino of any race(s)</td>
<td>250</td>
</tr>
<tr>
<td>American Indian / Alaskan Native</td>
<td>3</td>
</tr>
<tr>
<td>Asian</td>
<td>96</td>
</tr>
<tr>
<td>Black / African American</td>
<td>56</td>
</tr>
<tr>
<td>Native Hawaiian / Other Pacific Islander</td>
<td>59</td>
</tr>
<tr>
<td>White</td>
<td>158</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>86</td>
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Special Programs

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<tr>
<th></th>
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<tbody>
<tr>
<td>Free or Reduced-Price Meals (May 2017)</td>
<td>483</td>
</tr>
<tr>
<td>Special Education (May 2017)</td>
<td>90</td>
</tr>
<tr>
<td>Transitional Bilingual (May 2017)</td>
<td>138</td>
</tr>
<tr>
<td>Migrant (May 2017)</td>
<td>8</td>
</tr>
<tr>
<td>Section 504 (May 2017)</td>
<td>14</td>
</tr>
<tr>
<td>Foster Care (May 2017)</td>
<td>N&lt;10</td>
</tr>
</tbody>
</table>

Other Information (more info)

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<tr>
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<tbody>
<tr>
<td>Unexcused Absence Rate (2016-17)</td>
<td>3,568</td>
</tr>
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</table>

Information on Homeless Students may be found here.
II. Speak the language

Home Assignment

In class you learned about climate change and the atmosphere. Now you can go home and share what you learned with your family.

Instructions:

1. Count the number of light bulbs in your house.
   - Kitchen
   - Bathrooms
   - Dining area
   - Bedrooms
   - Family/living area
   - Other

   Record the total number here: ________________
   How many are regular/old fashioned bulbs? ____________
   How many are compact fluorescent bulbs (CFLs)? ____________
   Could any of the regular ones be changed to CFLs? ____________
   How many? ______

2. Count the number of electrical items you have plugged in.
   - Lamps
   - Television/DVD
   - Music (Stereo, iPod, etc.)
   - Computer
   - Appliances
   - Chargers (e.g., cell phones, toothbrushes, batteries)
   - Other

   Record the total number of items here: ________________
   Could any of these be unplugged when not in use? ______
   If so, which ones? ________________
II. Speak the language

Gawaing Pambahay

Sa klase ay natutunan ninyo ang tungkol sa pagbago ng klima at atmospera. Pag-uwi sa bahay ay maaari ninyong ibahagi ang natutunan ninyo sa inyong pamilya.

Pakiusapan ang isang miyembro ng pamilya samahan kayong magsiyasat sa inyong tahanan upang maragdagan ang nalalaman tungkol sa carbon footprint ng inyong pamilya. Itala rito ang inyong mga natuklasan.

Tagubilin:

1. Bilangin ang mga bombilya ng ilaw sa inyong bahay.
   - Kusina
   - Mga banyo
   - Lugar ng kainan
   - Mga silid-tulungan
   - Lugar pampamilya/Salas
   - Iba pa

   Itala ang kabuuang bilang dito

2. Bilangin ang mga kagamitang de-kuryente na inyong isinaksak.
   - Mga ilaw
   - Mga banyo
   - Telebisyon/DVD
   - Musika (Stereo, IPod, etc.)
   - Mga appliance
   - Mga Charger (hal: cell phone, toothbrush, baterya)
   - Computadora
   - Iba pa

   Ilista dito ang kabuuang bilang ng mga aytem: 

   Maari baak tanggali sa pagkasaksak sa kuryente ang ilan sa mga ito kapag hindi ginagamit?
II. Speak the language

VISUALS!
III. Build a personal connection

Engage!
III. Build a personal connection

WHAT IF I TOLD YOU

CLIMATE CHANGE DOESN'T JUST EFFECT THE POLAR BEARS
III. Build a personal connection

Fact or Fiction?

Bellevue receives enough annual precipitation that even with some climate change, we will not have to worry about future drinking water shortages.
III. Build a personal connection

Local Information

FICTION!

The watersheds that supply the City of Bellevue’s drinking water rely heavily on snowmelt to supply the city during the dry summer months. Climate models predict warmer winters with less mountain snowpack. This, coupled with our growing population, could lead to future water shortages.
III. Build a personal connection
III. Build a personal connection

ESTIMATE YOUR CARBON FOOTPRINT!
Most days, how do you get to school?
- Large car/ SUV: +10
- Compact car: +7
- Hybrid car: +3
- Bus: +3
- Walk: +0
- Bike: +0

Most days, how do you travel to visit friends or get around town?
- Large car/ SUV: +10
- Compact car: +7
- Hybrid car: +3
- Bus: +3
- Walk: +0
- Bike: +0
HOME

When you feel cold at home, what is the first thing you do?

- Put on warmer layers (+1)
- Turn up the heat (+5)

When you feel hot at home, what is the first thing you do?

- Open windows (+1)
- Use a fan to cool off (+3)
- Turn on the air conditioning (+5)

SHOPPING

How many pairs of shoes do you own?

- One to five (+1)
- More than five (+2)
ELECTRONICS

When you are done using a computer, do you:

- Shut it off [1]
- Put it in “sleep” mode [2]
- Leave it on [3]

How much screen time do you have per day:

- Two hours or less [2]
- Three to five hours [3]
- More than five hours [5]

When finished charging electronics, do you:

- Unplug the charger [1]
- Leave charger in the outlet [2]
WATER

How long is your typical shower?

- 5-10 minutes +2
- 10-15 minutes +3
- More than 15 minutes +5

LIGHTING

How often do you turn the lights out when leaving a room?

- Always +1
- Sometimes +2
- Hardly ever +3
IV. Use Models
IV. Use Models
V. Empower, don’t discourage

Address “doom and gloom”
V. Empower, don’t discourage

Partner with Scientists
V. Empower, don’t discourage

Collaborate on Positive Messaging
V. Empower, don’t discourage

Fact or Fiction?

With current technology, you could drive some cars from Washington to California to Maine without burning a single drop of gas, diesel, or other fossil fuels.

FACT!

In 2014, the Epic Electric American Roadtrip broke world records for longest distance traveled by an all-electric powered car. The car used for the trip (a Tesla model S sedan) drove about 12,000 miles and was fueled entirely by electricity.

Show Progress is Possible
V. Empower, don’t discourage

Career Focus
V. Empower, don’t discourage

Walking:
Sometimes walking somewhere is not an option. What are other ways you can get around while keeping your carbon footprint small?

Be Realistic
V. Empower, don’t discourage

Focus On Things Students Can Influence/Control
We need investment in equitable climate change education!

This education needs to be developed with and for marginalized communities.

What is one idea or strategy you will take home from today’s workshop?
Questions?

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