Polluters vs. Environmentalists

Avoiding a Harmful Dichotomy

Topics to be covered:

- What does environmental sustainability have to do with what I teach?
- What is dangerous about creating a dichotomy between polluters and environmentalists?
- How should we teach about environmental sustainability?

What does environmental sustainability have to do with what I teach?

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- The IB philosophy and curricular framework put forward ideals that programme graduates will:
  - Have an awareness, understanding, and appreciation of the environment
  - Have the intellectual and ethical foundation to be shepherds of the environment

What does environmental sustainability have to do with what I teach?

"The International Baccalaureate Organization aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect."

- The IBO Mission Statement

"The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world."

- The IB Learner Profile

What does environmental sustainability have to do with what I teach?

How do the various aspects of the IB programme support the value of investigating and working with topics like environmental sustainability?

What does environmental sustainability have to do with what I teach?

- The idea of using themes (like the environment) and cross-curricular planning to create a lattice of hooks for our students to build knowledge upon is supported by:
  - Suggested IB teaching methodologies based upon inquiry and the use of curricular tools like the AOIs
  - The constructivist pedagogical philosophy based upon the work of educators like Dewey, Piaget, and Vygotsky

What does environmental sustainability have to do with what I teach?

- When implemented properly a theme like environmental sustainability does not get in the way of your curricular goals, but instead is a source of examples, metaphors, and real world applications that facilitate student learning through opportunities to make connections, and opportunities for students to experience relevance.

What is dangerous about creating a dichotomy between polluters and environmentalists?

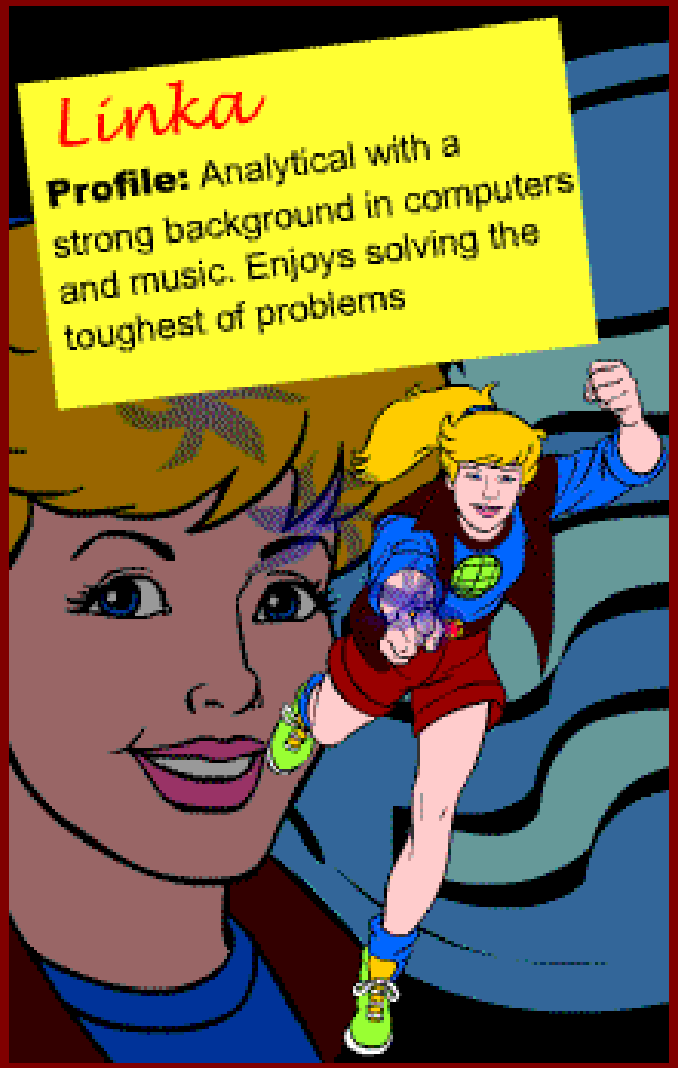
What do polluters look like?

Hoggish Greedly

Verminous Skumm

Dr. Duke Nukem

What do environmentalists look like?



What is dangerous about creating a dichotomy between polluters and environmentalists?

Questions for Discussion

- What is the consequence of teaching our students that polluters are greedy monsters who intentionally destroy the environment, or at least have no regard for it?
- How does this affect our students' understanding of the world?
- How does this affect our students' behavior?
- How does this affect the ability of our society to take action to recognize and address threats to the environment?

How should we teach about environmental sustainability?

"A little learning is a dangerous thing; drink deep, or taste not the Pierian spring: there shallow draughts intoxicate the brain, and drinking largely sobers us again."

- Alexander Pope (1688 - 1744)

How should we teach about environmental sustainability?

Global Warming

- Global Warming is caused by increased levels of carbon dioxide, methane and other green

As teachers, how do we have our students go beyond this level of understanding?

major contributor to the increase of green house gasses.

How should we teach about environmental sustainability?

Global Warming

- Global warming isn't being caused by "eco-villains" (or petroleum executives) twisting their mustaches, while plotting to destroy the earth.
- It is safe to assume that all human beings want the earth to be a place where human beings can live for future generations.
- So, if no one wants to destroy the earth, than why are we destroying it?

How should we teach about environmental sustainability?

Questions for Discussion

- How can we teach about global warming in a more interesting way?
- How can we teach about global warming in a way that requires/facilitates critical thinking, instead of just understanding the concept of global warming, and memorizing causes for global warming?

Why I think debate and argument is one of the best ways to teach about environmental issues

Why I think debate and argument is one of the best ways to teach about environmental issues

- It allows students to understand the reasoning of both sides, and that both sides have legitimate perspectives
- It allows students to develop critical thinking skills, and to get into the habit of supporting their opinions with facts

Why I think debate and argument is one of the best ways to teach about environmental issues

- It allows you to meet your curricular objectives, regardless of what your course is
- It allows you to deal with important issues in a serious way, even if your auditorium is sponsored by a petroleum company

Why I think debate and argument is one of the best ways to teach about environmental issues

- It creates the great educational situation of students asking you what the correct answer is, and you have to say, “I don’t know”
- This may be the first step in opening your students up to embracing intellectual uncertainty, a habit of mind that is necessary for any real learning and problem solving to take place

Examples of My Own Practice

Examples of My Own Practice

Hydro-electric dams


Damned if You Do
Damned if You Don't

Hydro-electric dams

For a Grade 7 unit on Energy I created a PowerPoint detailing:

- The positive economic effects (jobs created and increased access to electricity)
- The positive environmental effects (decrease in coal use and pollution)
- The total cost of the dam
- The loss of cultural sites and landmarks
- The negative effect on the environment for farmers as well as local endangered species like the Yangzi River Dolphin, the Chinese Sturgeon, the Yangzi Alligator, and the Siberian Crane
- In the next period, students had an in-class debate, where they used their notes from the slide show as evidence to support their opinions.

Examples of My Own Practice

Which means of production is the best for Thailand's energy needs?

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- For the same Grade 7 unit on Energy the summative assessment assigned students to advise the Thai government about their assigned energy source:

Nuclear Energy	Biomass
Wind Power	Solar Power
Fossil Fuels	Tidal / Wave Power
Hydro-electric dams	

- Students had to tell the government the strengths and weaknesses of their energy source. In the end the class took a vote about which energy source Thailand should invest in using most.

Examples of My Own Practice

Wetlands

Wetlands

I divided my Grade 8 class into two groups for a unit on wetlands.

- One half had a debate on whether the Thai government should allow the development of a new city at the location of the new airport
- The other half had a debate on whether shrimp farming helps or hurts Thailand

Wetlands

- All students participated in a debate, and all students scored the debate they weren't participating in (synthesis /application and evaluation – Bloom's Taxonomy)
- Students wrestled with real and proposed economic gains vs. real and proposed environmental damage

How can we improve our teaching practice, and address environmental sustainability?

Questions for Discussion

- What different conceptions of “environmental sustainability” are relevant to your course?
- What themes, skills, or content in your course relate, or could be related to environmental sustainability?
- How can you address these areas in a way that requires / facilitates critical thinking?

The world is facing global warming, mass extinction, the depletion of our rainforests, the death of our coral reefs, shrinking oil reserves, and growing landfills.

But, we have saved species from extinction, we have worked together to make significant progress in decreasing sulfur dioxide emissions, and we have helped improve problems like the hole in the ozone layer.

The world of tomorrow requires that we prepare our students with the knowledge, the habits of mind, and the critical thinking skills to wrestle with difficult problems.

The progress that has been made on major world problems was not just as a result of the work of lab coat-wearing scientists, but also as a result of diverse groups of people who could cooperate, people who could communicate their ideas and the seriousness of problems (in their first and second languages, to their culture and to other cultural groups), and people who were able to use alternative perspectives from multiple disciplines to reframe problems.

It is up to all of us to prepare our students for the challenges of the future