

Energy Ethics in Agriculture: Exploring the Triple Bottom Line

Overview:

Within the context of the Northwest Advanced Renewable Alliance (a project that centers on using woody biomass extracted from forested areas in the Pacific Northwest (WA,OR,ID,MT) as a feedstock for bio-jet industry); there is an exceptional opportunity help students develop the ability to consider social economic and environmental implications of actions. Parties involved in the NARA project are taking precautions to assure biojet fuel can be produced in a way that is socially, economically and environmentally responsible. This lesson introduces the concept of a triple bottom line within the context of the sustainable agriculture movement.

Keywords:

Triple Bottom Line, Sustainable Agriculture, Sustainable Capitalism, Waste

Age / Grade Range:

High School students and Adult learners

Background:

Nearly all aspects of agricultural production including land ownership, genetic engineering, chemical technology, and energy consumption have ethical components (Zimdahl, 2000). Despite the impact of agriculture on culture, environment and the economy, students at high school and university levels are not equipped with tools to recognize, appreciate, or reason about ethical issues in agricultural production (Dibel, 2008). Buxton (2010) explains; science curriculum should give students the tools to ask critical questions about the world around them and to take action based on those reflections. In this unit, students will read a selection of writing from prominent authors in the sustainable agriculture movement and articulate personal views about energy ethics. A successful unit will result in students gaining the ability to write and speak about the moral foundations of arguments and the capacity to consider diverse perspectives.

Common Core:

Common Core: Reading #8, “Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.”

Common Core: Writing #1, “Write arguments to support claims in an analysis of substantive topics or text’s, using valid reasoning and relevant and sufficient evidence.”

Goal:

Students recognize ethical discussions are an important part of civic life.

Learning Objectives:

- Students will become familiar with the appropriate technology movement, its origins and intentions
- Students will be able to explain the foundations of sustainable capitalism and the concept of a triple bottom line
- *Sustainable Capitalism: A Matter of Ethics and Morality* (John Ikerd)

Materials:

- *Farming in the Future: The triple Bottom Line* (John Ikerd)
- Three essays from What are people for? (Wendell Berry)
- Chalk Board
- 2 hours of personal reading with additional time to take notes and reflect on material

Set up:

- 10 minutes to print copies of the readings. Allot an additional 30 minutes to scan pages from What are people for? If students do not have individual copies.

Classroom Time:

- **Day 1:** 70 minutes for students to watch Michal Sandel lecture “Justice: what’s the right thing to do? 5 Minutes to debrief video. Provide ethics overview and introduce the assignments ahead.
- **Day 2** 10 minute introductory prompt. 80 minute block to organize the groups notes on each writing (students are to highlight statements they agree with in green and those they do not in red. 6 readings total.
- **Day 3:** 90 minute block for peer writing revisions

Introduction

(Engage):

Day 1: Ask students to take five minutes to write about an ethical dilemma they are aware of. The writing can come from personal experience, knowledge of current events, or historical record.

Day 2: At the beginning of class students will respond to the following prompt with 10 minutes provided to write. "Imagine you own a 200 acre farm in Idaho. Describe at least three practices that would ensure you are managing the farm with a triple bottom line in mind."

Activity (Explore):

Day 2: Organize and compile the most controversial statements from the three assigned Wendel Berry essays. Start by allowing the students in small groups (5-8) to see where divisions lie by comparing the text they have highlighted red (reject) and green (affirm). Ask the students to compile contentious quotes on the board. Quotes should be organized by essay title and have the corresponding page number for reference.

Explanation

Day 1: Students express their reactions to the moral philosophy questions asked by Dr. Sandel in the video lecture. Plan on 3-5 min discussion time for each question.

Elaboration:

Students will be providing written response to short essay questions.

Template issue, continue reading.

Evaluation:

The Common Core reading #8 standard, “Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence”; is addressed in the first and second extended response questions asked with regard to the essay “Word and Flesh.” To respond to these questions students’ need to weigh the authors’ very specific claims:

1) “The religion and the environmentalism of the highly industrialized countries are at bottom a sham, because they make it their business to fight against something that they do not really wish to destroy. We all live by robbing nature, but our standard of living demands that the robbery shall continue. We must achieve the character and acquire the skills to live much poorer than we do... It is either that or continue merely to think and talk about changes that we are inviting catastrophe to make.”

2) “The great obstacle is simply this: the conviction that we cannot change because we are dependent on what is wrong. But that is the addicts excuse, and we know that will not do How dependent are we? How dependent are our neighborhoods and communities? How might our dependencies be reduced?”

The Common Core: Writing #1 standard, “Write arguments to support claims in an analysis of substantive topics or text’s, using valid reasoning and relevant and sufficient evidence” is addressed most thoroughly by the questions that accompany the essay, “Why I’m not going to buy a computer.” To answer these questions students are asked to compile evidence that supports their convictions. If they hold a position that is contrary to the authors students are asked to assume the role of an attorney and defend a position even if they do not agree philosophically.

Additional resources: For information on Wendel Berry and his views the following CBS interview is exceptional:
<https://www.youtube.com/watch?v=2ejYAfcjJm>

Student Writing Assignment

In “Waste”

- How are consumer items constructed from plastics and metals connected to energy use? Do you agree with Berry’s assessment that our waste problem is “not the fault only of producers.”
- Do you feel minimal involvement in the growing and cooking of food is desirable. If so, where have you received this message? If not, where have you received the message involvement in the growing and cooking of food is desirable?

In “Word and Flesh”

- How do respond to the quote, “The religion and the environmentalism of the highly industrialized countries are at bottom a sham, because they make it their business to fight against something that they do not really wish to destroy. We all live by robbing nature, but our standard of living demands that the robbery shall continue. We must achieve the character and acquire the skills to live much poorer than we do... It is either that or continue merely to think and talk about changes that we are inviting catastrophe to make.”
- On page 201 Berry writes: “The great obstacle is simply this: the conviction that we cannot change because we are dependent on what is wrong. But that is the addicts excuse, and we know that will not do How dependent are we? How dependent are our neighborhoods and communities? How might our dependencies be reduced?” Please respond to these three questions using research to support your claims.

In “Why I am Not Going To Buy A Computer”

- Carefully read Berry’s “Standards for technological innovation.” List a tool or product that satisfies at least two of the nine criteria and explain how the item satisfies the criteria. Please include the numbers of criteria selected. If you cannot think of a product that satisfies two of the nine criteria, explain why it is difficult to do so.
- Compile three points from “letters in response” that you think are legitimate. If you do not believe any of the arguments from the “letters in response” are valid, suppose you are an attorney and must side with the readers e.g., James Rhodes, Gordon Inkeles, despite personal conviction. Strengthen the readers’ position.

Lesson relationship to NARA big Ideas

This lesson introduces the concept of a triple bottom line within the context of the sustainable agriculture movement and the Northwest Advanced Renewable Alliance (NARA). The NARA project centers on using woody biomass extracted from forested areas in the Pacific Northwest (WA,OR,ID,MT) as a feedstock for a bio-jet industry. NARA moves forward with the high economic, social and environmental standards of the Pacific Northwest at the forefront. In classrooms, the NARA project provides a concrete and timely context from which conversations about energy, ethics and waste can stem. These conversations are sincerely needed.

Despite the impact of agriculture on culture, environment and the economy, students at high school and university levels are not equipped with tools to recognize, appreciate, or reason about ethical issues in agricultural production (Dibel, 2008). Buxton (2010) explains; science curriculum should give students the tools to ask critical questions about the world around them and to take action based on those reflections. In this unit, students will read a selection of writing from prominent authors in the sustainable agriculture movement and articulate personal views about energy ethics. A successful unit will result in students gaining the ability to write and speak about the moral foundations of arguments and the capacity to consider diverse perspectives.