Making Connections: Reflection Essay

SUMMARY
Students draw a concept map to organize the factors that should be discussed when a community is considering using wood for energy. Students then write a one to two page essay. The essay should reflect their experiences with learning about the use of wood for energy and demonstrate their understanding of the issue’s complexity.

Section IV: Wrapping Up

Subjects
Language Arts, Science

Key Questions
1. What factors should be discussed when a community is considering using wood for energy?
2. What are the advantages and disadvantages to using wood for energy?
3. How does sustainability relate to using wood for energy?

Objectives
By the end of the activity, students will be able to do the following:
1. Use a graphic organizer to guide the prewriting and writing process (LA.1112.3.1.3).
2. Describe and analyze the environmental, economic, and social factors associated with using wood for energy (SC.912.L.17.11; SC.912.E.6.6; SC.912.N.4.2; SC.912.L.17.11).
3. Apply appropriate written communication skills to integrate information and concepts related sustainable energy production (LA.1112.2.2.3).

Materials
• Copies of Student Handout (one copy per student)

Time Estimate
30 minutes to introduce activity (essay assigned for homework)
Teacher Instructions

This is a culminating activity intended to engage students in critical thinking as they consider the feasibility of using wood for energy in their own community. First, you introduce students to concept maps and create a concept map as a class. Next, students individually complete their own concept map related to the question: Should our community use wood for energy? Finally, students pre-write using provided questions and then compose their own one to two page essay.

Preparation
1. Review activity procedure and Student Handout to familiarize yourself with the activity.
2. Review the Critical Thinking section in the Teacher Introduction.
3. Make copies of Student Handout.

Procedure
1. Introduce students to concept maps. Explain that concept maps are a way to organize information and depict relationships between ideas. The core question/idea is the center of the diagram. The associated factors branch from the center, and additional factors (sub-factors) branch out from there. Connections are depicted between the core question, factors, and sub-factors by using arrows or lines. For additional information on concept mapping, see the Resources section of this activity.
2. As a class, draw a concept map on the decision to drive a car to school. Draw the center of the diagram. Ask students to come up to the board one at a time to add an idea, impact, factor, or consideration that relates to the decision. Figure 1 provides an example of a concept map and can be used to prompt students if they need additional guidance.
3. Next, ask students to individually draw a concept map that illustrates the decision to use wood for energy. Provide 15 minutes in class for students to draw their concept maps.
4. Pass out copies of the Student Handout and explain the reflection essay assignment. Answer questions and provide students with a due date (at least three days are recommended for completion of the essay). Instruct students that they are required to also turn in the concept map related to using wood for energy.

Assessment Suggestions

OBJECTIVE 1:
Review student concept maps and check for detail, thoroughness, and completeness.

OBJECTIVES 2 AND 3:
Score student posters using the rubric on the following page.

Resources

- Visual Teaching Tools: Concept Maps (UF IFAS Extension EDIS Document AEC 390). Available online at: http://edis.ifas.ufl.edu/WC071
Extensions

After students have turned in essays, have them draw their concept maps on poster board and allow each student time to present their concept map to the class. If time is limited, ask students to volunteer to present their concept map or select students to present. You can also hang the concept maps around the class to compare and contrast ideas.

Reflection Essay Rubric: Making Connections

<table>
<thead>
<tr>
<th>Category</th>
<th>3 Above Standards</th>
<th>2 Meets Standards</th>
<th>1 Below Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of Woody Biomass</td>
<td>Essay includes a complete and accurate definition of woody biomass.</td>
<td>Essay defines woody biomass, but the definition is incomplete.</td>
<td>Essay does not define woody biomass.</td>
</tr>
<tr>
<td>Advantages and Disadvantages of Woody Biomass</td>
<td>Essay explains both advantages and disadvantages.</td>
<td>Essay explains advantages or disadvantages, but not both.</td>
<td>Essay does not explain any advantages or disadvantages.</td>
</tr>
<tr>
<td>Factors for a Community to Consider</td>
<td>Essay identifies at least 3 factors that a community should consider when using wood for energy.</td>
<td>Essay identifies 1 or 2 factors that a community should consider</td>
<td>Essay does not identify any factors that a community should consider.</td>
</tr>
<tr>
<td>Sustainability Component</td>
<td>Essay addresses and shows a strong understanding of the concept of sustainability.</td>
<td>Essay addresses the concept of sustainability but is not elaborated upon.</td>
<td>Essay does not address the concept of sustainability.</td>
</tr>
<tr>
<td>Accuracy</td>
<td>All statements are accurately reported.</td>
<td>Almost all statements are accurately reported.</td>
<td>Almost all statements are inaccurately reported.</td>
</tr>
</tbody>
</table>

FIGURE 1. This concept map depicts the impacts of the decision to drive to school.
The purpose of this activity is for you to reflect upon what you’ve learned about using wood for energy and demonstrate that knowledge by composing a one to two page essay. Specifically, your goal is to inform readers about the issue of using wood for energy and explain what factors (advantages and disadvantages) should be considered when a community is exploring woody biomass as an energy source.

I. PRE-WRITE

- To begin, examine the concept map you drew in class to illustrate the factors that should be discussed when a community considers using wood for energy. Brainstorm and write some notes in response to the following questions to help you prepare your ideas:
  1. What should communities think about when making decisions related to energy production and use?
  2. What are some of the disadvantages and advantages of using wood for energy?
  3. What does the concept of sustainability mean to you?
  4. How does sustainability relate to using wood for energy?
  5. Think back on the wood to energy activities you’ve done. What concepts or ideas stand out the most for you?

II. REFLECTION ESSAY

- Use the pre-writing ideas you generated to compose a one to two page essay answering the question:

  What is woody biomass and what factors should your community think about when considering using wood for energy?

- Your essay should begin with a focus statement which identifies the topic of the essay and outlines the key points that you will discuss. You should then provide evidence to support your focus statement in the body of your essay. Your essay should also have a conclusion that summarizes what you have discussed in the essay.