Activity #1

Believe it? evaluating web information

Karen Arabas

Willamette University

# Purpose

Students will find relevant information on the web and evaluate it.

# Learning Objective(s) Addressed by This Activity

* Be prepared to apply critical and reflective thinking in environmental science.
* Evaluate web information.
* Contribute to building a web resource.
* Consider what other students find on the web.

# Class Size and Required Time

This activity works with small and large classes.

# Materials Needed

Student access to the Internet

# Description

These activities are useful because there is so much information on the web and students have a difficult time trying to understand what is good and what is not. Many students assume that if it is on the web it is good. Therefore, before the students do this activity, engage them in a guided discussion about what constitutes "quality" information on the Internet. As a class you could discuss criteria for how the information on the web can be judged to get students involved in the process. Some of the criteria might include: Is the information accurate? Is the information authentic? Is the source reliable/trustworthy? Is the motive service-oriented, etc?

***Variation 1: Gaia***

1. Do an Internet search on "Gaia.” List several of the web addresses you found and briefly describe the types of sites you found. Please post any of interest to the class web page. *Note:* Students will come up with a wide range of things from academic discussions about Lovelock's GAIA hypothesis to new-age crystal philosophies on GAIA.

***Variation 2: Ecosystem Components: Energy and Matter***

Select one or two of the key terms at the end of Chapter 2 of the text. Define each term. Do a web search on the term(s) and answer the discussion question below.

1. What term(s) did you choose? What web sites did you find? Write down the web addresses with a brief description of the content. Please post the most useful one on the class website.

# Assessment

Assess this exercise based on whether a student posts the site successfully. The evaluation of the sites can be done as a class group with discussion about the different sites. Posting on the class website has the benefit of showing how students can contribute to build a web resource, and see what the others students found.

Alternatively, the students could write a short paragraph evaluating the site including the web addresses. Two criteria could be used for the assessment of this activity.

1. Did the students post the site successfully?

2. Did the students evaluate the site appropriately? In other words, did they use the criteria you provided (see below) or developed as a class?

For a total of 20 points (the numbers can be changed to fit your assessment needs).

20 = Posted the site successfully.

Described the accuracy of the site’s information.

Discussed the reliability and trustworthiness of the site.

Identified the motivations and interests of the source of the site.

Discussed how the accuracy, reliability, and motivations affect the information posted on the site.

15 = Posted the site successfully.

Described the accuracy of the site’s information.

Discussed the reliability and trustworthiness of the site.

Identified the motivations and interests of the source of the site.

Did not discuss how the accuracy, reliability, and motivations affect the site’s information.

10 = Posted the site successfully.

Described the accuracy of the site’s information.

Discussed the reliability and trustworthiness of the site.

Did not identify the motivations and interests of the source of the site.

Did not discuss how the accuracy, reliability, and motivations affect the site’s information.

5 = Posted the site successfully.

Did not describe the accuracy of the site’s information.

Did not discuss the reliability and trustworthiness of the site.

Did not identify the motivations and interests of the source of the site.

Did not discuss how the accuracy, reliability, and motivations affect the site’s information.

0 = Did not post the site successfully

Did not describe the accuracy of the site’s information

Did not discuss the reliability and trustworthiness of the site.

Did not identify the motivations and interests of the source of the site.

Did not discuss how the accuracy, reliability, and motivations affect the site’s information.

Karen Arabas

Department of Earth and Environmental Sciences

Willamette University

900 State Street

Salem, Oregon 97301

(503) 370-6666

e-mail: [karabas@willamette.edu](mailto:karabas@willamette.edu)

Activity #2

constructing concept maps

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| Darby Nelson | Amanda Woods McConney |
| Anoka-Ramsey Community College | Western Oregon University |
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# Purpose

Three different variations for students to construct a concept map in class.

# Learning Objective(s) Addressed by This Activity

The development of concept maps can be adapted to many different topics. The specific content objective varies with the topic you use for the concept map.

* Understand the advantages and uses of concept mapping in your studying.
* All objectives *(Variation 3).*
* Organize and synthesize information.
* Create connections among the concepts for Chapter 3 *(Variation 3).*

# Class Size and Required Time

This activity works with small classes and large lecture classes, depending on the variation. Variation 3 works best with smaller classes. Developing the concept map takes one to two class periods, and depending on the variation about five minutes of the previous class to prepare for the day’s activity.

# Materials Needed

Depending on the instructor’s preferences, overhead transparencies (or large sheets of paper to ultimately be taped on the wall) and markers may be distributed for the students to prepare their map for Variation 3.

# Description

This activity is very effective at getting students involved with course topics and to model the development of a concept map for students to use on their own. All of the following variations depend on group work in class, with a review of the concepts before the actual concept map is created. Based on your class size, you will want to determine how many groups you should have, and how many students should be in each group. In general, it is best to have three to five students in a group. As the students are creating their maps, circulate in the classroom, helping students and reminding them that most of the learning gains come from the process of creating the map rather than the finished map.

Since concept mapping is a tool that needs to be practiced it is a good idea to ease students into the process with less and less support as they master the skill. When the students are *first* introduced to the process, provide a short list of terms or concepts, boxes, arrows, and linking terms:

triggers

resulting in

produces

The *second* time students are engaged in concept mapping hand out a list of concepts and/or terms and a framework of boxes, leaving out the linking terms. The *third* time students create maps have them develop the maps from a list of concepts and/or terms.

##### Variation 1: Challenging Concepts

Assign numbers to students using the following procedure, or another procedure you may prefer. Create a series of paper slips with numbers on them, drop them in a box, and then have each student randomly pick a slip of paper from the box. Students join other students with the same number to form groups. Present the challenging concepts in class and then direct the students to review the concepts you will be mapping by the next class meeting. Students join other students with the same number and create a concept map of the assigned topics.

##### Variation 2: Basic Concepts

Identify some of the more successful students to help serve as group facilitators. Create groups with two facilitators and three other students. Direct the students to review the concepts you will be mapping by the next class meeting. Have the students create a concept map of the concepts. Tapping the better students as facilitators works well because it helps them feel good about themselves, among other intangible benefits. Further, there are times when students can explain a concept to another student better than an instructor, especially if a student is having trouble with terminology. Sometimes another student will explain the concept and make it clear.

##### Variation 3: Connecting the Concepts

Create the student groups the day before the activity and assign sections of a chapter (or other reading) to be read and reviewed in preparation for the map-making activities the next day. Have the students decide on a spokesperson for the group who will write on the overhead transparency (or large sheet of paper) used for presenting the maps to the rest of the class. During the next class meeting, have the students create concept maps in different groups. After the concept maps are finished, direct the class to connect all of the maps with the appropriate linking terms, etc. For illustrative purposes, use Chapter 3, which has five major sections (*Who Lives Where, and Why?; Species Interactions; Population Dynamics; Community Properties; Communities in Transition*). Assign sections *Community Properties* and *Communities in Transition* to different groups. Because they are large sections with many different concepts, assign two groups to map *different* parts of *Who Lives Where, and Why?; Species Interactions;* and *Population Dynamics*. After the groups have created their maps on overhead transparency film (or large sheets of paper), have the whole class connect the different maps in the appropriate places, with appropriate linking terms. This last activity can be an excellent way for the students to see the connections among the different concepts, but can be challenging for the students if they are having a hard time with the maps. If there are problems, the instructor can start the connecting process and model it for the students. This will usually get a few students to start seeing the connections and the instructor can “hand over” the pen for the students to continue the connecting activity. Students usually want copies of the overall map so copies can be made, depending on the instructor’s preferences.

# Assessment

For a total of 20 points (the numbers can be changed to fit your assessment needs).

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| Level |  |
| 20 = | Used appropriate/accurate linking terms; Used appropriate hierarchy; Used all the terms; Drew a concept map |
| 15 = | Mostly used appropriate/accurate linking terms; Mostly used appropriate hierarchy; Used at least six of the terms; Drew a concept map |
| 10 = | Sometimes used appropriate/accurate linking terms; Sometimes used appropriate hierarchy; Used between three and six of the terms; Drew a concept map |
| 5 = | Used inappropriate/inaccurate or no linking terms; Used inappropriate hierarchy; Used at least three of the terms; Drew a concept map |
| 0 = | Did not use appropriate/accurate linking terms; Did not use appropriate hierarchy; Used less than three terms; Did not draw a concept map |

Darby Nelson

Anoka-Ramsey Community College

Coon Rapids, MN

(763) 422-3490

Amanda Woods McConney

Continuing Professional Development

Western Oregon University

Monmouth, OR 97361

(503) 838-8158