Activities

The following activities are suggested as instructional methods to teach the content of this workbook.

1. Similarities and Differences in Environmental Education Descriptions

Time: Approximately 15 minutes. Extensions could take up to an hour.

Materials:

- Copies of various EE definitions, including Tbilisi Declaration, Hungerford and Volk, National EE Advisory Committee, and Pa. Master Plan. These copies may be on overhead sheets, laminated posters, flip charts or PowerPoint slides.
- Optional, depending on circumstances: flip chart or poster stands, PowerPoint or overhead projector.
- Highlighters and pencils for participants.
- Highlighters and/or markers for facilitator.

Procedure:

1. Set up the room so that the definitions are projected in some way where everyone can see and read them.
2. Have participants read over the definitions and choose key words or ideas that are common to all the descriptions and highlight them or write them down in their workbooks.
3. After they have had a chance to identify key words, ask the group for examples they have chosen, and highlight them on the projected definitions. Discuss common elements in the descriptions such as the components of *awareness, knowledge, action and skills.*
4. Discuss differences between the definitions, such as the shift from a reactive, problem-based focus to the examination of issues and solutions, and a prescription of stewardship and sustainability criteria as proactive measures to prevent problems from arising. The "Think, Pair, Share" technique may be used to facilitate this discussion.

   Think, Pair, Share: Give the large group the question, "what are some common threads in all of these definitions of environmental education?" Ask each person to think about the answer individually. Next, have participants discuss the question with a neighbor. Finally, process the entire group.

Extensions: An optional extension is to review the educational missions of several state or local organizations, including missions of workshop participants' organization, and look for themes that are common between these missions and the definition of environmental education.

A second optional extension is to have the groups develop their own environmental education mission statement for a fictional school district or organization/agency. They should define EE, develop several critical goals, and give examples of how these goals would be accomplished.

2. Is This Environmental Education?

Time: Approximately 30 minutes.

Materials:

- Cards or handouts with program scenarios, program topics, or copies of activities and/or lessons. See sample lessons below for curricula examples from which to cull examples.
- Writing tablet or flip chart for each group.

Procedure:

1. Divide participants up into groups of three or four. Distribute copies of pre-selected program examples. Four examples per group are recommended.
2. Ask the groups to review the selected materials and write their answer to the following questions: "Is this EE?" "Why is it EE—what key characteristics are present in this program that serve to meet EE criteria. If it is not EE, how could it be developed further to make it EE?"
3. When they are finished, have the small groups share two of their results with the whole class. Each group should briefly describe their chosen examples, and explain their answers to the discussion questions.

3. Sample Lessons

The following lessons have been used in past workshops to demonstrate environmental education activities in a hands-on manner:

- "Everybody Needs a Home" - Project Wild, sponsored by Pa. Game Commission, (Example of early childhood EE)
- "Bio-Bingo" - from *Mud, Muck and Other Wonderful Things* available from the National 4-H Council, 7100 Connecticut Ave., Chevy Chase, MD 208115-4999 Phone: 301-961-2800 (Example of early childhood EE)
- "Are Vacant Lots Really Vacant" - Project Learning Tree, sponsored by Pa. Department of Education (Example of interdisciplinary EE, focusing on local environment)
- "Six Bits" - from *Environmental Problem Solving, Theory and Possibilities in Environmental Education* by Bardwell, Monroe and Tudor, 1994; available from the North American Association for Environmental Education. (Demonstrates cooperative learning, problem solving and communication skills)
- "Dragonfly Pond" - Project Wild Aquatic, sponsored by the Pa. Fish and Boat Commission (Example of simulation activity, looking at an issue from many different perspectives)
- "Web quests" - information available via the Internet at http://webquest.sdsu.edu/webquest.html (Example of looking at issues from many different perspectives, cooperative learning, problem solving and communication skills)
- "Using Success Stories" - from *Approaching Environmental Issues in the Classroom,* part of the EE Toolkit available from Kendall/Hunt Publishing Company, 4050 Westmark Dr., Dubuque, IA 52002. Additional information on Pennsylvania's Environmental Heroes available on the Pa. Department of Environmental Protection's Web site at http://www.dep.state.pa.us/dep/PA_Env-Her/environm.htm (Example of using role models)

Other Suggested Activities include:

- "Wetland Habitats" - Wading Into Wetlands, sponsored by the Pa. Department of Education (Example of cognitive skill building with EE—classification and organization of data)
- "Ten Minute Mysteries" - Windows on the Wild, sponsored by the Pa. Wild Resources Conservation Fund, additional information from "The Broomcan Mystery" in PAEE Region Six 1987 Earth Day Packet (Example of cooperative learning activity, communication skill building, and cognitive skill building with EE—analyzing and synthesizing information)

- "Car Talk" from *Air Quality for Teachers* sponsored by the Pa. Department of Environmental Protection (Example of cognitive skill building with EE—analyzing information)
- "Read My Data" from *Air Quality for Teachers* sponsored by the Pa. Department of Environmental Protection (Example of interdisciplinary EE)
- "How Is Energy Used" from *Elementary Energy & Environment Science Activities* sponsored by the Pa. Department of Environmental Protection (Example of field studies in EE)
- "Group Problem Solving" - Activities for Environmental Learning, sponsored by the Pa. Department of Conservation and Natural Resources (Example of how to teach problem solving skills)
- "Tree-mendous" - Food, Land and People, sponsored by the Pa. Department of Education (Example of EE activity that relates to proposed Pa. Environment and Ecology Standards)

4. Alternative Perspectives / Web Quests

Goal: Engage in authentic learning activities that explore knowledge and skills for environmental action.

Objectives:

- Research and investigate a selected environmental issue.
- Identify and consider various perspectives on a selected environmental issue.
- (In some cases) Consider the ecological and societal implications of various perspectives.
- Learn group participation and cooperative skills by participating in a group problem-solving activity.
- Practice effective presentation skills.
- (In some cases) Determine support and opposition to a solution and select appropriate methods and tactics for implementing the solution.

Time: Approximately 1 hour and 15 minutes

Materials for each group:

- Flip chart and markers
- Cooperative job descriptions and pins
- Notebooks with Web quest descriptions and background information.

Note: *in preparation for this activity, the instructor will need to go to the Web sites listed below, run off the instructions and reference material from the listed links, and create a notebook containing these materials for each Web quest.*

Sample Web quests:

- Paper or Plastic? - http://oncampus.richmond.edu/academics/as/education/webquests/paper/Paper1.htm
- Acid Rain - http://olp.swlauriersb.qc.ca/webquest/rainwq.htm
- GE Goods – Friend or Foe? - http://home.earthlink.net/~spcemonk/webquest.html

Procedure:

1. Review cooperative learning and cooperative skills.
2. Explain the concept of a Web quest.
3. Distribute Web quest assignments: notebooks with copies of the group's task and background information from Internet sources.
4. Allow time for groups to complete assignments.
5. Groups make presentations of their fulfillment of the quests.

De-brief:

1. What were some of the things you learned about cooperative learning?
2. What are some Pennsylvania-specific topics that would lend themselves to this teaching technique?
3. What are some of the pros and cons of this type of activity with regard to your teaching situation?

5. Analyzing Lessons for Environmental Literacy Components

Time: 30-45 minutes

Materials:

- Copies of environmental education lessons or program descriptions from various organizations.

Procedure:

1. Explain task—groups are to choose an EE lesson or program, identify the components of environmental literacy education that are present in the lesson/program, and develop an extension of the lesson/program that would add an additional component of environmental literacy education. On page 5 of this module is a copy of a chart showing the environmental literacy components.
2. Divide into groups of three or four.
3. Give each group a writing tablet plus copies of four lessons/program descriptions.
4. Give groups time to engage in the task and summarize their responses.
5. At the wrap up of this activity, groups should describe their chosen lesson, describe how it incorporates environmental literacy components and explain how they would extend the lesson to include an additional component.

6. Creating an EE Program

Time: 1 hour and 30 minutes minimum. More time is needed during a two-day workshop, up to two hours. Facilitators should reserve 20-30 minutes of the allotted time for the final group presentations, depending on the number of groups making presentations. Each presentation should be between 5-10 minutes.

Materials:

- For each group—Group Task Card, Program Scenario Card, Cooperative job descriptions and pins, note pad, flip chart, marker set
- For the entire group—reference materials, workbooks

Procedure:

1. This activity is a culmination of the workshop, and entails having groups apply their newly acquired knowledge to the task of designing their own program using the techniques they have learned. The facilitator should divide the class into groups of three to five participants; pass out the supplies, scenarios and task cards.
2. This activity can be presented as a cooperative group task. If so, the facilitator may want to hand out cards with specific job descriptions for individual members.
3. The task cards give a complete description of the activity and the criteria for successful completion. Each group should be prepared to present their program to the entire class at the end of the activity.
4. Groups should give copies of their program plan to the facilitator, who may save them as workshop assessment data, and may send copies to participants as a workshop follow-up.

Group Task Card

Objective: Create an EE program incorporating EE goals, principles and environmental literacy.

Materials: Job descriptions & pins, Program Scenarios Card, Group Task Card, note pad, PCEE references.

Procedure:

1. Select an initial scenario for the program.

2. Develop a plan/description of the program to include:
    - Statement of program goals
    - List of specific educational objectives
    - Brief description of the activities and methods that will be used
    - A description of how the program incorporates the EE essentials:
        - ❑ Describe how the program fits the definition of EE
        - ❑ Describe the EE guiding principles embodied by the program
        - ❑ List the components of environmental literacy that are included in the program
        - ❑ Explain how the program will promote those environmental literacy components.
    - Describe how you will evaluate the program.

3. Prepare a 5-10 minute presentation on your activity.

Group Task Card

Objective: Create an EE program incorporating EE goals, principles and environmental literacy.

Materials: Job descriptions & pins, Program Scenarios Card, Group Task Card, note pad, PCEE references.

Procedure:

1. Select an initial scenario for the program.

2. Develop a plan/description of the program to include:
    - Statement of program goals
    - List of specific educational objectives
    - Brief description of the activities and methods that will be used
    - A description of how the program incorporates the EE essentials:
        - ❑ Describe how the program fits the definition of EE
        - ❑ Describe the EE guiding principles embodied by the program
        - ❑ List the components of environmental literacy that are included in the program
        - ❑ Explain how the program will promote those environmental literacy components.
    - Describe how you will evaluate the program.

3. Prepare a 5-10 minute presentation on your activity.

Environmental Education Program Scenarios

- A local library is doing an ecology and environment theme for the summer reading club. They call you and ask you for your help.
- A civic club, (group chooses nature of civic club), invites you to speak on an environmental topic.
- The local government office requests you to develop a public awareness program about a new environmental initiative.
- You receive a call from a high school ecology club that wants to do a service project for your organization.

Environmental Education Program Scenarios

- You are working with a Boy Scout troop researching an ecosystem restoration project.
- A high school biology dept. chair, organizing an all-day in-service for teacher, invites you to speak on the environmental education resources within your organization.
- A neighborhood organization or lake association invites you to speak on what they can do to help the environment in their community.
- You are asked to design a compliance education program for a conservation/environmental law or regulation. (group chooses type of law/regulation.)

Environmental Education Program Scenarios

- Speak to a PTA group on using an out door facility for an EE program.
- Take a group of 3rd graders out to a pond.
- Organize a family program for all ages.
- Present a program at an all-day community festival event.

Environmental Education Program Scenarios

- A workshop to educate the local Business Forum on an environmental issue.
- A 10th grade advanced biology class is coming to your center for a program.
- A Girl Scout troop (4th–6th grade) needs your help trying to earn their conservation badge.
- You will accompany a church youth group on a canoe trip and help them learn about river ecology.

Environmental Education Program Scenarios

- Present a workshop at the annual conference of a conservation organization.
- Develop a traveling exhibit for local schools.
- A local business has asked you to run a compliance training workshop for their employees.
- You are asked to design an on-line tutorial about an environmental topic.

Environmental Education Program Scenarios

- A county park system asks you to run a training session for their summer seasonal employees.
- A school district asks you to consult on their high school curriculum development in the area of environmental laws and regulations.
- You are invited to give a program at a 4-H leadership conference.
- The local chapter of an environmental group asks you to lead an outing for them focusing on an environmental topic.