

Professional Development of Environmental Educators: Guidelines for Excellence

Online Workshop

Instructor's Manual



naaee

North American Association
for Environmental Education

Professional Development of Environmental Educators: Guidelines for Excellence Online Module¹

Instructor's Manual

Overview

Through this module, participants will be introduced to a set of competencies for educators articulated in NAAEE's *Professional Development of Environmental Educators: Guidelines for Excellence*. These competencies are designed for educators preparing to teach environmental education in a variety of job settings. As a culminating exercise, participants will have the opportunity to complete a self-assessment against these competencies and create their own professional development plan.

The ***Professional Development Guidelines*** outline a set of recommendations about the basic knowledge and abilities educators need to provide high-quality environmental education. The guidelines are designed to apply:

- ✓ within the context of preservice teacher education programs and environmental education courses offered to students with varied backgrounds such as environmental studies, geography, liberal studies, or natural resources
- ✓ to the professional development of educators who will work in both formal and nonformal educational settings, offering programs at the prekindergarten through 12th grade levels
- ✓ to full-time environmental educators and those for whom environmental education will be among other responsibilities

Your students/participants will have the opportunity to unpack these competencies and think about what it means to be an environmental educator.

Using this Online Module

We understand that you may be teaching a semester-long course in environmental education, a short professional learning workshop for local classroom teachers, or something entirely different. This module is offered as a flexible set of activities that

¹ This online module was adapted by Bora Simmons and Renee Gracon from *Professional Development of Environmental Educators: Guidelines for Excellence – Workshop Resources* by Bora Simmons and Elizabeth Schmitz.

introduce your students/participants to NAAEE's *Professional Development of Environmental Educators: Guidelines for Excellence*.

We encourage you to adapt the sequence of activities to your specific needs. The module can be used in both *synchronous* and *asynchronous* online instruction. Depending on your instructional objectives, audience, amount of time available, and online platform, varying sets of activities and activity sequences can be constructed. We assume, however, that you will play an important role as the instructor or facilitator. This module *has not been designed* as a stand-alone, self-paced instructional unit.

We developed two documents to support your online instruction: 1) *Instructor's Manual*, which includes information directed specifically to you as the instructor along with all of the activities and instructions for use by your students (*handouts* are found at the end of the *Instructor's Manual*) and 2) *Participant's Manual*, which only includes activities and their associated worksheets.

We also developed a set of PowerPoint presentations that you can use with your participants to introduce background information. Each of the PowerPoints includes notes that you can adapt for your presentation. In addition, we created narrated videos of each PowerPoint presentation for use in asynchronous instruction.

Descriptions of activities, printable worksheets (reproduced at the end of the *Instructor's Manual*) and follow up questions are provided so that participants can complete much of the module on their own. Throughout there are, however, points where it is suggested that the instructor host the group either asynchronously (e.g., using a discussion board) or synchronously (e.g., using a live session via an online platform such as Webex, Zoom, Canvas, etc., and breakout rooms or chat functions).

In the balance of this *Instructor's Manual*, information *directed specifically to you, the instructor, is presented in italics and in green font*. None of this instructor-specific information is included in the *Participant's Manual*. Content of the *Participant's Manual* is reproduced in this manual using *black font* and participant activities are displayed in *boxes outlined in green*.

We are anxious to hear how you use this module and what adaptations you make. After using this module, please complete the Instructor's Report form.

Let's get started!

Welcome, How We Will Work Together and Other Logistics

To the instructor:

The module begins with a general welcome session and then moves into an overview of the Professional Development of Environmental Educators: Guidelines for Excellence. We recommend that you use a live session or create a video, introducing yourself to the participants and welcoming them to the course. You may also want to create a presentation that outlines:

- ✓ *How you will be working together (synchronous or asynchronous)*
- ✓ *An introduction or orientation to the online platform you are using (e.g., Zoom, Canvas)*
- ✓ *How participants will “meet” one another*
- ✓ *Your timeline for meetings, due dates, and such*
- ✓ *How participants will access Handouts, videos, and other instructional materials*
- ✓ *How participants will communicate with you (e.g., email address) and with other participants*
- ✓ *Assessments and grading, if applicable*
- ✓ *Office hours, if applicable*
- ✓ *And any other logistics that will help your students orient*

Additionally, you will want to provide your students with an overview of:

- ✓ *Module Objectives*
- ✓ *Module Outline*

Finally, we suggest that you take this opportunity to give your students a bit of context and background before you start the module. Use the provided PowerPoints/videos to:

- ✓ *Provide an overview of the North American Association for Environmental Education (NAAEE),*
- ✓ *Introduce the National Project for Excellence in Environmental Education*
- ✓ *Introduce this set of guidelines, Professional Development of Environmental Educators: Guidelines for Excellence, and how they are structured.*

Module Objectives

Upon completion of the online module, participants will be able to:

- ✓ Describe a set of environmental educator competencies
- ✓ Assess their own level of preparation as an environmental educator
- ✓ Reflect on their own need for professional development in environmental education using the *Professional Development of Environmental Educators: Guidelines for Excellence*

Module Outline

Getting Started

- Welcome, How We Will Work Together, and Other Logistics
- PowerPoint/video: North American Association for Environmental Education
- PowerPoint/video: Introducing the Professional Development Guidelines
- PowerPoint/video: National Project for Excellence in Environmental Education
- Activity #1: Professional Development Scavenger Hunt

Environmental Literacy

- Activity #2: My Environmental Literacy Portfolio
- Video: What is Environmental Literacy?

Foundations of Environmental Education

- Activity #3: History of Environmental Education Timeline

Professional Responsibilities of the Environmental Educator

- Activity #4: Do's and Don'ts

Planning and Implementing Environmental Education

- Activity #5: Analyzing Instructional Approaches

Fostering Learning and Promoting Inclusivity

- Activity #6: Fostering Learning and Promoting Inclusivity Educator Observation Rubric

Assessment and Evaluation

- Activity #7: Environmental Educator Self-Assessment and Professional Development Plan
- Wrap-up and Final Reflections

NOTE: Underlined titles that are printed in **green font** are active hyperlinks. By using the keystrokes “control click” you can access the document without cutting and pasting the URL into your browser.

Getting Started [45 minutes]

To the instructor:

*After providing an overview to the online module (e.g., introductions, module schedule, objectives) it's time to jump into the **Professional Development of Environmental Educators: Guidelines for Excellence**.*

*With your class, or asynchronously, view the PowerPoint/video presentations, **Introducing the North American Association for Environmental Education** (PowerPoint or MP4 file), **National Project for Excellence in Environmental Education** by going to: <https://www.youtube.com/watch?v=6Tz0mBNlgFM> and **Introducing the Professional Development Guidelines** (PowerPoint or MP4 file). **NOTE:** PowerPoints and MP4 files are available in the online module folders.*

These videos/PowerPoint presentations:

- ✓ *Provide an overview of the North American Association for Environmental Education (NAAEE),*
- ✓ *Provide background information about the National Project for Excellence in Environmental Education, and*
- ✓ *Introduce this set of guidelines, Professional Development of Environmental Educators: Guidelines for Excellence, and how they are structured.*

*Participants will have an opportunity to dig into the guidelines further through **Activity #1: Professional Development Scavenger Hunt**.*

Activity #1: Professional Development Scavenger Hunt

To the instructor:

For **Activity #1: Professional Development Scavenger Hunt**, there are two different versions of the handout. **Handout A.1** is the participant's version. **Handout A.2** is the Instructor's Key. Both versions can be found at the end of the Instructor's Manual. Depending on your time and class structure, Activity #1 makes a good homework assignment.

Activity #1: Professional Development Scavenger Hunt [20 minutes]

In this activity, you will complete a scavenger hunt as a way of becoming familiar with the [Professional Development of Environmental Educators: Guidelines for Excellence](#).

Materials:

- ✓ [Professional Development of Environmental Educators: Guidelines for Excellence](#)
- ✓ **Professional Development Scavenger Hunt [Handout A.1]**

Procedure:

1. Download a copy of [Professional Development of Environmental Educators: Guidelines for Excellence](#) from the NAAEE website by either clicking the underlined title or by going to:
https://cdn.naaee.org/sites/default/files/eeopro/products/files/professional_development_lr.pdf
2. Complete the **Professional Development Scavenger Hunt [Handout A.1]**.
3. Read pages 8-19 of [Professional Development of Environmental Educators: Guidelines for Excellence](#).

Environmental Literacy [45 minutes]

To the instructor:

The online module follows the sequence outlined in the **Professional Development Guidelines**, starting with **Theme #1: Environmental Literacy**. Briefly introduce your participants to **Theme #1** (page 14 of *Professional Development of Environmental Educators: Guidelines for Excellence*).

Point out that **Theme #1** states "...environmental educators must possess the understandings, skills, and attitudes associated with environmental literacy." That is, a competent environmental educator is environmentally literate.

Remind the participants that **Theme #1** is derived from and further defined in the **K-12 Environmental Education: Guidelines for Excellence**, which can be accessed by clicking the underlined title or by going to:
https://cdn.naaee.org/sites/default/files/eeopro/products/files/k-12_ee.lr_.pdf.

Tell them that the K-12 EE Guidelines describe what an environmentally literate person should know and be able to do by the time they graduate from high school.

NOTE: Before going much further, you may want to check to see whether your participants have used the K-12 EE Guidelines and whether they already understand how the environmental literacy framework is structured. Depending on their backgrounds, they may already be familiar with the K-12 EE Guidelines.

Use **Handout B [K-12 Environmental Education: Guidelines for Excellence Summary]** to provide an overview of the four sets of competencies outlined in Theme #1:

- 1.1 Questioning, Analysis, and Interpretation Skills,
- 1.2 Environmental processes and systems
- 1.3 Skills for understanding and addressing environmental issues
- 1.4 Personal and civic responsibilities

Tell the participants that, in addition to the K-12 EE Guidelines, there are other definitions or descriptions of environmental literacy available. As a quick introduction to another definition, show the NAAEE video, **What is Environmental Literacy?**², by clicking the underlined title or by going to:
<https://naaee.org/eeopro/learning/eelearn/what-is-ee/lesson-4/animation>.

After showing the video, ask participants to compare the video's description of environmental literacy and the framework outlined in K-12 EE Guidelines.

Activity #2: My Environmental Literacy Portfolio

To the instructor:

In **Activity #2, My Environmental Literacy Portfolio**, participants will create an outline for a portfolio that highlights their environmental literacy achievements. Using the **Theme #1** guidelines, the participants will reflect on their own environmental literacy and the many ways they have developed it over the years. This activity is best assigned as homework. A group discussion can be conducted during the next class meeting.

² This video is from **Lesson 4** of NAAEE's online module **What is Environmental Education?**. Depending on the interest and experience of your participants, you may want to suggest they complete the entire module which can be accessed by clicking the underlined title or by going to:
<https://naaee.org/eeopro/learning/eelearn>. It will take approximately two hours. **NOTE:** Participants will need to create an **eePRO** profile at <https://naaee.org>. (**eePro** is FREE to use)

Activity #2 My Environmental Literacy Portfolio [30 minutes]

Environmental literacy is developed over a lifetime. In this activity, you will reflect on your own level of environmental literacy and the many ways you developed it over the years.

Materials:

- ✓ **K-12 Environmental Education: Guidelines for Excellence Summary [Handout B]**
- ✓ **My Environmental Literacy Portfolio [Handout C]**
- ✓ Pencil or pen

Procedure:

1. Imagine that you are applying for a job that requires a high level of environmental literacy. As a first step in the job application process, you are asked to submit an outline [Handout C] of your full portfolio that would provide evidence of your accomplishments.
2. Review **Handout B**. Reflect on your environmental literacy strengths across the four domains or Strands.
3. For each of the four Strands, think about all the ways you developed environmental literacy competencies over the years (e.g., formal coursework, workshops, job experiences, volunteering, community activities, personal reading, hobbies).

For example: You may have developed Questioning, Analysis, and Interpretation Skills while working as a research assistant one summer or you may have honed a strong understanding of Earth's living systems in a college ecology course and Earth's physical systems while backpacking in the Rocky Mountains. Because you love to travel and spend time reading about other cultures, you may have developed a keen understanding of different cultural perspectives and how they relate to environmental concerns. And, you may have further developed your sense of civic responsibility as an active member of the League of Women Voters.

4. Use **Handout C** to outline the evidence of you would submit in your portfolio (e.g., Summer research assistant collecting and analyzing data related to local housing needs or Undergraduate ecology course).
5. Submit the completed **Handout C** to your instructor.

To the instructor:

During the next class meeting, review **Handout C**. Ask for volunteers to share their evidence for each Strand. After all four strands have been discussed, ask participants to reflect on what they learned from the exercise:

- Across all four domains, what were the most common learning experiences (e.g., formal coursework, job experiences, volunteer efforts)?
- What was the least common?
- Was the one type of learning experience associated more with one Strand over another?
- What does this exercise tell you about your level of environmental literacy?
- What does it tell you about how you develop environmental literacy over your lifetime?

Foundations of Environmental Education [45 minutes]

To the instructor:

Transition to **Theme #2** by reminding the participants that it focuses on the Foundations of Environmental Education, including how EE evolved (pages 15 – 17 of *Professional Development of Environmental Educators: Guidelines for Excellence*). Tell them that in the next activity (**Activity #3: History of Environmental Education Timeline**) they will explore a bit of the history of environmental education. If possible, use breakout rooms so that participants can work in small groups.

Activity #3 History of Environmental Education Timeline

To the instructor:

In **Activity #3: History of Environmental Education Timeline** participants are given several events/organizations important to the history and development of environmental education as a field (from **Handout D.1**). They are asked to place these events/organizations in chronological order.

In advance of your class meeting, create a packet of timeline entries for each group (or individual if you are working asynchronously), using **Handout D.1: History of Environmental Education Timeline**. Each packet should include approximately 8-10 randomly selected entries. **Handout D.1** includes a total of 49 items. Each entry includes an event or the name of an organization important to the history of environmental education. Feel free to add events/organizations that may be meaningful to your region.

Please Note: Although a mix of international events/organizations has been included, the focus is on the history of EE in the United States. Depending on your group, you may want to adjust the list of events/organizations.

Activity #3 Environmental Education Timeline [15 minutes]

Conscious efforts to educate the public on environmental concerns and solutions has a relatively short history. In this activity, you will explore some of the events and organizations that have been important to the development of environmental education as a field.

Materials:

- ✓ Packet of events/organizations assigned to you by the instructor
- ✓ Paper and pencil

Procedure:

1. On a blank sheet of paper, **draw** a timeline, starting in the year 1900 and continuing to the present. Divide the timeline into 10-year segments. Alternatively, you may use the online form given to you by your instructor.
2. Read each of the entries you have been assigned. Think about why each event/organization is important to the development of environmental education.
3. Put each of the entries into chronological order and assign them to a decade on the timeline. Be ready to explain your reasoning.
4. With others in your class, compile the entries into a single timeline.

To the instructor:

*After individuals/groups have created their timelines, bring the participants back together as a large group. Ask participants to add their timeline entries to the appropriate places on a master timeline (a shared Google doc can work well for this). Once each group has placed their own entries in chronological order, bring the whole group back together again. Working as a whole group, slowly scroll through the timeline, starting with the year 1900. Check their work using **Handout D.2** and periodically ask if anyone can tell the rest of the group more about selected entries (i.e., the assigned group can read the description of the entry from their list). Throughout the activity:*

- ✓ *Check for accuracy by asking if there are events or organizations not placed in the proper point on the timeline. If a change is proposed, ask them to explain their thinking.*
- ✓ *Take the time to correct the timeline if any of the events or people are still out of place.*
- ✓ *Ask participants to explain why particular entries are important to the development of environmental education.*

Point out to participants how Guideline 2.1: Fundamental Characteristic and Goals of Environmental Education and Guideline 2.3: The Evolution of the Field relate to their timeline. Before moving on, take a moment to review Guideline 2.2: How environmental education is implemented.

Depending on how much time is available, show NAAEE's YouTube videos or assign them as homework (each video is less than eight minutes long):

- ✓ **Oral History – International**
<https://naaee.org/eeopro/learning/eelearn/history-ee/lesson-1/video-int>
- ✓ **Oral History – United States**
<https://naaee.org/eeopro/learning/eelearn/history-ee/lesson-1/video-us>

Professional Responsibilities of the Environmental Educator [45 minutes]

To the instructor:

Transition to **Theme #3**. Remind the participants that **Theme #3: Professional Responsibilities of the Environmental Educator** focuses on environmental education as a profession and the importance of maintaining high standards for instruction and professional conduct (pages 18 – 19 of *Professional Development of Environmental Educators: Guidelines for Excellence*).

Activity #4: Do's and Don'ts

To the instructor:

*In **Activity #4: Do's and Don'ts**, participants will discuss the roles, and sometimes blurred lines, of being an educator and an activist. Distinguishing between their roles as educator and personal activist often results in a lively discussion. Because it impacts conceptions of professional roles and responsibilities, it deserves a thorough discussion. If possible, parts of this activity should be completed by small groups in breakout rooms.*

Participants begin their exploration by thinking about what an educator should and shouldn't do when teaching about controversial issues. To help the participants take a step back from their own experiences, they are first asked to consider a teaching setting that may be an arm's length away from their day-to-day activities – the civics classroom.

***Activity #4** begins by asking participants to consider recommendations they might give to a civics teacher who is engaging students in a discussion around controversial issues such as gun rights, whether the death penalty should be abolished, or whether animal testing should be banned.*

Then, participants are asked to consider their lists with a different lens – that of an environmental educator engaging students in a discussion of controversial issues such as fracking, GMOs, deforestation, and climate change or a locally relevant, controversial environmental issue.

In preparation for this activity, you may want to (re)read recommendations made by various educators about teaching controversial issues. Depending on your participants, you may want to assign one or more of the following as homework:

- ✓ *University of Michigan, CRLT, Guidelines for Discussing Difficult or High-Stakes Topics*
<http://crlt.umich.edu/publinks/generalguidelines>
- ✓ *Yale Poorvu Center for Teaching and Learning, Teaching Controversial Issues*
<https://poorvucenter.yale.edu/teaching/ideas-teaching/teaching-controversial-topics>
- ✓ *Brown University Department of History, Guidelines for Participating in Classroom Discussions* [**Note:** This is a Google Doc. Some participants may not be able to access it.]
https://docs.google.com/document/d/1LFRrfP5GowHyI0PI3_JmCJBYmDfvmd6Qj4Arjly2PqE/edit
- ✓ *Duquesne University, Teaching Controversial Topics*
<https://www.duq.edu/about/centers-and-institutes/center-for-teaching-excellence/teaching-and-learning-at-duquesne/teaching-controversial-topics>
- ✓ *CLEAN: Climate Literacy and Energy Awareness Network, Controversy in the Classroom: Strategies for Managing Climate Change Discourse.*
<https://cleanet.org/clean/literacy/tools/controversy.html>

Activity #4: Do's and Don'ts [20 minutes]

Civics teachers often engage their students in discussions around controversial issues, such as gun rights, whether the death penalty should be abolished, or whether animal testing should be banned. In this exercise, you will create a list of “dos” and “don'ts” for civics teachers to help them navigate teaching about controversies.

Materials

- ✓ **Handout E**
- ✓ Paper and pencil/pen

Procedure

1. Read the scenario outlined in **Handout E**.
2. Imagine you are giving some guidance to civics teachers who will be teaching about a controversial issue that they care deeply about, as individuals. What would be on your “do's” and “don'ts” list for high-quality instruction?
3. Write down your list of “do's” and “don'ts”
4. With others in your class, compile a group list of “do's” and “don'ts”
5. Read John Hug's essay, *Two Hats* [**Handout E**].
6. Revisit your group “do's” and “don'ts” list. With an environmental education lens:
 - What items would you add to your “do's” and “don'ts” list? Why?
 - What would you delete or change? Why?
7. Update your list.

To the Instructor:

After the participants have read the scenario, ask them to work individually to create an initial list of “do's” and “don'ts” for civic teachers. When most of the participants have completed their lists, assign participants to breakout rooms, if possible. Tell them that they should:

- *Share their individual “do's” and “don'ts” list with the others in their group, and*
- *Create a group “do's” and “don'ts” list*

After most of the breakout rooms have had a chance to discuss their lists, bring everyone back together.

- *Ask groups to share one to two items from their list. If possible, create a common list on your shared computer screen so that the participants can read the growing list.*
- *Continue, calling on different groups/individuals, until most have contributed.*
- *Give participants a chance to ask questions of each other and comment on individual items.*

Share a copy of John Hug's *Two Hats* essay with your participants [**Handout E**] and ask them to read it. Now, ask your participants to consider the do's and don'ts list with a different lens – that of an environmental educator engaging students in a discussion around controversial issues such as fracking, GMOs, deforestation, and climate change or a locally relevant, environmental issue.

- What items would you add to your dos and don'ts list? Why?
- What would you delete or change? Why?

Remind the participants that as with civics teachers, environmental educators may have deeply held personal perspectives on these issues. Ask the participants:

- What might help you clarify when you are playing which role?
- How are the professional responsibilities of a civics teacher and an environmental educator similar and different?

As a final note, point out *Guideline 3.1: Exemplary Environmental Education Practice* and *Guideline 3.3: Ongoing Learning and Professional Development*. Remind participants that ongoing learning and professional development, coaching, mentoring, volunteering, and participation in local, state, and national organizations are important components of engaging in the profession.

Planning and Implementing Environmental Education [45 minutes]

To the instructor:

Transition to **Theme #4: Planning and Implementing Environmental Education** by quickly reviewing its seven guidelines (pages 20 – 25 of *Professional Development of Environmental Educators: Guidelines for Excellence*).

Activity #5: Analyzing Instructional Approaches

To the instructor:

Activity #5: Analyzing Instructional Approaches works well as either an asynchronous activity or as a homework assignment with a follow up class discussion. If **Activity #5** has been assigned as homework, ask the participants to email a copy of their poster to you before the next scheduled meeting.

Activity #5: Analyzing Instructional Approaches [30 minutes]

In this activity, you will explore widely used instructional approaches and consider how they can be adapted for different audiences, settings, and instructional technologies.

Materials

- ✓ Internet access
- ✓ *Professional Development of Environmental Educators: Guidelines for Excellence*
- ✓ **Handout F**
- ✓ Paper and pen/pencil

Procedure

1. Take a moment to think about one of your favorite instructional approaches or teaching methods. What makes it so special for you?
2. Brainstorm common instructional strategies used in environmental education. Write these on a piece of paper.
3. Read **Theme #4: Planning and Implementing Environmental Education** (pp. 20-25) in the *Professional Development Guidelines*.
4. Compare your list of instructional strategies (Step #2) to the list of Essential Approaches to Environmental Education Instruction found in **Theme #4**, p. 21.
5. Select one instructional strategy to explore further, either from your list or the list in the *Professional Development Guidelines*.
6. Complete **Handout F**.
7. Email your completed poster to your instructor before the next class meeting.

To the instructor:

During your next meeting, ask selected participants to share their posters with the others and to provide a brief overview of what they learned about the specific instructional approach. Open the discussion for questions and comments:

- *Which of the instructional approaches seems best for use with young learners (preschoolers)? Why?*
- *Which might be most appropriate for adult learners? Why?*
- *Which of the instructional approaches uses outdoor and community settings most effectively? Which are best used inside the classroom?*
- *Which are dependent on technology? Which seem to use technology most effectively?*
- *Which instructional approaches might advantage or disadvantage specific types of learners (e.g., those learning English as a second language, those with special needs)? How could you adapt the instructional approach to meet the needs of all learners?*
- *What are some other criteria you could use in selecting an instructional approach (e.g., time available, size of group, special needs)?*

Fostering Learning and Promoting Inclusivity [45 minutes]

To the instructor:

Transition to **Theme #5: Fostering Learning and Promoting Inclusivity** (pages 26 – 27 of *Professional Development of Environmental Educators: Guidelines for Excellence*). Remind participants that **Theme #5** focuses on the ability of educators to enable all learners to engage in culturally relevant open inquiry and investigation.

Activity #6: Fostering Learning and Promoting Inclusivity

To the instructor:

*This activity works best by splitting participants into small groups, with each group assigned one of the three guidelines under **Theme #5** (e.g., 5.1, 5.2, 5.3). If that is not possible, we suggest that you focus on one guideline at a time, asking participants to work individually and then sharing their ideas with the whole group. Make sure you give everyone an opportunity to share and ask clarifying questions.*

Begin the activity by asking participants to think about a favorite teacher or learning experience.

- *What was so special about the teacher?*
- *What was so special about the learning experience?*

Now, ask the participants to think about a learning experience where you did not feel included.

- *What made you feel excluded or unwelcome?*

*Introduce the activity by telling participants that they will be creating a rubric for one of the three guidelines listed under **Theme #5: Fostering Learning and Promoting Inclusivity**. Explain that the rubric will be used to gauge novice educators' ability to apply the assigned guideline.*

*Display the rubric, **Handout G**, and tell the participants that their task is to fill in the rubric by identifying at least three criteria that shape highly successful teaching. Taking one criterion at a time, they should write a description for each of the four levels (e.g., Highly Effective, Effective, Improvement Necessary, and Does Not Meet Expectation). Each should describe a different level of success for the selected criterion. Point out the example criterion, Organizing physical space, and how it is elaborated across the four levels.*

Finally, ask participants to be prepared to discuss how they addressed the inclusion of all learners in their rubric.

Depending on the amount of time available, you may want to show your participants the NAAEE eeLEARN video, [Defining Equity and Inclusion](#)³. Access the video by clicking the underlined title or by going to:

<https://www.youtube.com/watch?v=mAJG5BMATVE&t=2s>

Activity #6: Fostering Learning and Promoting Inclusivity [30 minutes]

In this activity, you will develop a rubric for one of the three guidelines listed under *Theme #5: Fostering Learning and Promoting Inclusivity*.

Materials

- ✓ Copy of [Professional Development of Environmental Educators: Guidelines for Excellence](#)
- ✓ **Fostering Learning and Promoting Inclusivity Educator Observation Rubric [Handout G]**
- ✓ Paper and pencil/pen

Procedure

1. Think about your favorite teacher or learning experience. What was so special about the teacher? What was so special about the learning experience?
2. Think about a learning experience where you did not feel included. What made you feel excluded or unwelcome?
3. Imagine that you are mentoring novice environmental educators. As a mentor, you will want to observe the novice educators' teaching and provide constructive feedback to them on the degree to which they are addressing the criteria established in **Theme #5: Fostering Learning and Promoting Inclusivity**.
4. For your assigned guideline (e.g., guideline 5.1, 5.2, or 5.3), use **Handout G** to create a rubric that could be used to gauge the novice educators' ability to apply the assigned guideline. Be sure to indicate how you will address inclusion of all learners.

To the instructor:

Once breakout groups have completed their task, bring them back together for a large group discussion. Ask each group to provide a quick overview of their rubric. Provide an opportunity for other participants to comment or ask questions.

³ This video is part of the NAAEE eeLEARN module, [Equitable and Inclusive EE](#), which takes approximately four hours to complete. The module can be accessed here: <https://naaee.org/eeepro/learning/eelearn/equity-inclusion> Depending on your participants, you may want to suggest they complete this module on their own. **NOTE:** Participants will need to create an **eePRO** profile at <https://naaee.org>. (**eePro** is FREE to use)

Once all the groups have shared their work, ask the participants to take a moment or two to think about their own teaching. If someone observed one of your typical classes:

- How would you rate?
- What are your strengths?
- What are areas of needed improvement?

Assessment and Evaluation [45 minutes]

To the instructor:

Tell the participants that you are going to move on to the final topic, **Theme #6: Assessment and Evaluation** (pages 28 – 30 of *Professional Development of Environmental Educators: Guidelines for Excellence*). Introduce the topic by providing a brief overview of **Theme #6**.

Start the discussion by asking participants about learner assessment:

- Who can provide a quick definition of learner assessment?

Depending on the definition(s) offered, you may want to share this definition with the participants:

Assessment—Evaluation of skills and knowledge acquired by learners during a learning experience.

- What are some examples of how you have used learner assessment in your own teaching? Ask a few volunteers to describe their experiences.

Display **Handout H, Classroom Garden**. Explain that this is a simple activity outline for K-4 grade students. Walk the participants through the activity or ask the participants to read it to themselves.

Once they are familiar with the activity, ask them to look at the activity objective.

- Given this objective what student learning (knowledge, skills, affect) could you assess?
- What are some different ways you could assess student learning?

Wrap up your discussion of assessment by asking:

- What are some of the benefits of incorporating assessment into environmental education?
- What are the major difficulties of assessment? For each difficulty offered, ask the participants if anyone has suggestions.

Transition to the topic of evaluation by reminding the participants that **Theme #6** focuses on both assessment and evaluation. Then, ask if anyone can provide a quick definition of evaluation?

Depending on the definition(s) offered, you may want to share this definition with the participants:

Evaluation—*A process designed to determine if planned outcomes have been achieved.*

Show the NAAEE video **Key Concepts of Evaluation**. Access the video by clicking the underlined title or by going to: <https://naaee.org/eePRO/learning/eelearn/research-evaluation/lesson-2/video> *NOTE: This video is part of NAAEE’s eeLEARN module focusing on **Research and Evaluation**:*
<https://naaee.org/eePRO/learning/eelearn/research-evaluation>

Depending on your participants, you may want to suggest they complete this module on their own. It takes about four hours to complete.

After they view the video, ask the group:

- *What are the major benefits of program evaluation?*
- *Why would you conduct a program evaluation?*
- *Ask if any of them have conducted an evaluation? Ask them to describe their experiences briefly.*
- *What are some other ways you can incorporate evaluation into environmental education instruction?*

Activity #7: Environmental Educator Self-Assessment and Professional Development Plan

To the instructor:

Activity #7: Environmental Educator Self-Assessment and Professional Development Plan is designed as a culminating activity that is best completed as homework. Explain to the participants that self-reflection is a form assessment and they are being asked to appraise their professional development needs. The self-assessment will be completed online. Be sure to provide a due date.

As a Reminder

The **Professional Development of Environmental Educators: Guidelines for Excellence** is just one of the publications in the **Guidelines for Excellence series**. Visit the **NAAEE** website to learn more about the **Guidelines for Excellence** and how you can continue your professional development. NAAEE sponsors webinars, an annual conference, and much more. You may also want to join **eePRO**, the online platform for environmental education professional development.

Activity #7: Environmental Educator Self-Assessment and Professional Development Plan [30 minutes]

As a culminating exercise, and an example of assessment, you will be asked to reflect further on the six themes and your own capacities as an environmental educator.

Materials

- ✓ [Professional Development of Environmental Educators: Guidelines for Excellence](#)
- ✓ Environmental Educator Self-Assessment and Professional Development Plan (online access)

Procedure

1. Review pages 12-13 of [Professional Development of Environmental Educators: Guidelines for Excellence](#).
2. Complete the [Environmental Educator Self-Assessment and Professional Development Plan](#) by clicking the underlined title or by going to: <https://forms.gle/NrmgFqDnYx6ySEBx9>
3. Look back at your self-assessment. What are your strengths? What needs to be developed further?
4. Were you surprised by the results of your self-assessment? If so, what surprised you?
5. Label your completed **Self-Assessment** with your name and today's date.
6. Post your completed **Self-Assessment** to your instructor.

To the instructor:

Depending on your goals and setting, you may want to schedule a final session (synchronous or asynchronous) to wrap up the experience and ask the participants to complete a course evaluation.

Finally:

After you and your students have completed the module, please make sure you fill out the online [Instructor Report Form](#) by clicking on the title or going to: <https://forms.gle/ByN1eZeJDmF6kTL1A>

We are interested in learning which activities your group completed, what went well, and what you'd like to change next time. This feedback will help us modify the online module for other users.

Handout A.1

Activity #1: Professional Development Scavenger Hunt

1. **Professional Development of Environmental Educators: Guidelines for Excellence** is part of a continuing series of documents published by ...

2. According to the **Professional Development Guidelines**, the guidelines are grounded in a common understanding of effective environmental education that is rooted in two founding documents the _____ and the _____.
3. Which of the following is **NOT** considered part of the instructional vision of environmental education? _____
 - A. *EE draws on and advances broader educational goals and instructional methods*
 - B. *Instruction should engage the learner in the process of building knowledge and skills and be guided in part by the student's interests.*
 - C. *Environmental education is best taught in the K-12 classroom.*
 - D. *Environmental education provides opportunities for learners to enhance their capacity for independent thinking and effective, responsible action.*
4. Page 9 suggests eight essential **Underpinnings of Environmental Education**. Which of these key principles do you feel is the most essential, and why?

5. (True or False) The guidelines **ARE NOT** designed to apply to full-time environmental educators and those for whom environmental education will be among other responsibilities. _____
6. (True or False) Humans and the systems they create – societies, political systems, economies, religions, cultures, technologies – impact the total environment and are impacted by the environment. _____
7. The **Professional Development Guidelines** are organized into **6 Themes**, each of which describes a knowledge or skills area. Fill in the complete title of each Theme.
 - a. Theme 1: _____
 - b. Theme 2: _____
 - c. Theme 3: _____
 - d. Theme 4: _____
 - e. Theme 5: _____
 - f. Theme 6: _____

8. Page 10 describes **How to Use the Guidelines**. Each theme is further described by _____ and _____.
9. Theme #3, guideline 3.2, the last indicator (3rd bullet point) suggests that environmental educators should be able to identify and implement instructional strategies that encourage learners to _____ , _____, and _____.
10. Some **Essential Approaches to Environmental Education Instruction** are presented on page 21. From the approaches listed, which would you **NOT** be able to put into action? _____
11. **Theme #5: Fostering Learning and Promoting Inclusivity** states that environmental educators must enable all learners to engage in culturally relevant open inquiry and investigation. What are some strategies you use to engage your learners in culturally relevant open inquiry and investigation?

12. (True or False) Six sets of guidelines have been published. Hard copies can be purchased from NAAEE or **downloaded for free** from the NAAEE website.

Handout A.2

Activity #1: Professional Development Scavenger Hunt

Answer Key

1. **Professional Development of Environmental Educators: Guidelines for Excellence** is part of a continuing series of documents published by ... North American Association for Environmental Education (NAAEE) [inside cover]
2. According to the **Professional Development Guidelines**, the guidelines are grounded in a common understanding of effective environmental education that is rooted in two founding documents the **Belgrade Charter** and the **Tbilisi Declaration** [page 8].
3. Which of the following is **NOT** considered part of the instructional vision of environmental education? **C** [page 10]
 - A. *EE draws on and advances broader educational goals and instructional methods*
 - B. *Instruction should engage the learner in the process of building knowledge and skills and be guided in part by the student's interests.*
 - C. *Environmental education is best taught in the K-12 classroom.*
 - D. *Environmental education provides opportunities for learners to enhance their capacity for independent thinking and effective, responsible action.*
4. Page 9 suggests 8 essential **Underpinnings of Environmental Education**. Which of these key principles do you feel is the most essential, and why?
Various answers.
5. (True or False) The guidelines **ARE NOT** designed to apply to full-time environmental educators and those for whom environmental education will be among other responsibilities. **False**
6. (True or False) Humans and the systems they create – societies, political systems, economies, religions, cultures, technologies – impact the total environment and are impacted by the environment. **True**
7. The **Professional Development Guidelines** are organized into **6 Themes**, each of which describes a knowledge or skills area. Fill in the complete title of each Theme.
 - a. **Theme 1: Environmental Literacy**
 - b. **Theme 2: Foundations of Environmental Education**
 - c. **Theme 3: Professional Responsibilities of the Environmental Educator**

- d. Theme 4: Planning and Implementing Environmental Education
 - e. Theme 5: Fostering Learning and Promoting Inclusivity
 - f. Theme 6: Assessment and Evaluation
8. Page 10 describes **How to Use the Guidelines**. Each theme is further described by **guidelines** and **indicators**.
 9. Theme #3, guideline 3.2, the last indicator (3rd bullet point) suggests that environmental educators should be able to identify and implement instructional strategies that encourage learners to **explore different perspectives, form their own opinions, and explain their believes**.
 10. Some **Essential Approaches to Environmental Education Instruction** are presented on page 21. From the approaches listed, which would you **NOT** be able to put into action? **Answers will vary**.
 11. **Theme #5: Fostering Learning and Promoting Inclusivity** states that environmental educators must enable all learners to engage in culturally relevant open inquiry and investigation. What are some strategies you use to engage your learners in culturally relevant open inquiry and investigation? **Answers will vary**.
 12. (True or False) Six sets of guidelines have been published. Hard copies can be purchased from NAAEE or **downloaded for free** from the NAAEE website.
True

Handout B

Activity #2: My Environmental Literacy Portfolio

K-12 Environmental Education: Guidelines for Excellence Summary⁴

Strand 1: Questioning, Analysis, and Interpretation Skills

Environmental literacy depends on the ability to ask questions, speculate, and hypothesize about the world around you, seek information, and develop answers to your questions. You must be familiar with inquiry; master fundamental skills for gathering and organizing information; and interpret and synthesize information to develop and communicate explanations.

Strand 2: Environmental Processes and Systems

Environmental literacy is dependent on an understanding of the processes and systems that comprise the environment, including human social systems and influences. You understand how changes in one system (hydrosphere, atmosphere, geosphere, and biosphere) result in changes in another. You understand how human activities affect environmental quality and long-term sustainability at local, tribal, national, and global levels. These understandings are based on knowledge synthesized from across traditional disciplines and are grouped in three sub-categories:

- 2.1—Earth's physical and living systems
- 2.2—Humans and their societies
- 2.3—Environment and society

Strand 3: Skills for Understanding and Addressing Environmental Issues

Skills and knowledge are refined and applied in the context of environmental issues at varying scales. Environmental literacy includes the abilities to define, learn about, evaluate, and act on environmental issues. You can investigate environmental issues; consider evidence and differing viewpoints; and evaluate proposed action plans, including likely effectiveness in specific environmental, cultural, social, and economic contexts. You can analyze the intended and unintended consequences of your own actions and actions taken by other individuals and groups, including implications for long-term environmental, social, and economic sustainability. These skills are grouped in two sub-categories:

- 3.1—Skills for analyzing and investigating environmental issues
- 3.2—Decision-making and action skills

Strand 4: Personal and Civic Responsibility

Environmentally literate community members are willing and able to act on their own conclusions about what should be done to ensure environmental quality, social equity, and economic prosperity. As you develop and apply concept-based learning and skills for inquiry, analysis, and action, you also understand that what you do individually and in groups can make a difference.

⁴ NAAEE (2019) K-12 Environmental Education: Guidelines for Excellence. Washington, DC: NAAEE https://cdn.naaee.org/sites/default/files/eepr/products/files/k-12_ee.lr_.pdf

Handout C

Activity #2 My Environmental Literacy Portfolio

Environmental literacy is developed over a lifetime. In this activity, you will reflect on your own level of environmental literacy and the many ways you developed it over the years.

Procedure:

1. Imagine that you are applying for a job that requires a high level of environmental literacy. As a first step in the job application process, you are asked to submit an outline [Handout C] of your full portfolio that would provide evidence of your accomplishments.
2. Review **Handout B**. Reflect on your environmental literacy strengths across the four domains or Strands.
3. For each of the four Strands, think about all the ways you developed environmental literacy competencies over the years (e.g., formal coursework, workshops, job experiences, volunteering, community activities, personal reading, hobbies).

For example: You may have developed Questioning, Analysis, and Interpretation Skills while working as a research assistant one summer or you may have honed a strong understanding of Earth's living systems in a college ecology course and Earth's physical systems while backpacking in the Rocky Mountains. Because you love to travel and spend time reading about other cultures, you may have developed a keen understanding of different cultural perspectives and how they relate to environmental concerns. And, you may have further developed your sense of civic responsibility as an active member of the League of Women Voters.

4. Using the Strands listed below, outline the evidence you would submit in your portfolio (e.g., Summer research assistant collecting and analyzing data related to local housing needs or Undergraduate ecology course). For each Strand, list up to four examples of evidence.
5. Submit the completed **Handout C** to your instructor.

Portfolio Outline

Strand 1: Questioning, Analysis, and Interpretation Skills

(Example: Summer research assistant collecting and analyzing data related to local housing needs)

- 1.
- 2.
- 3.
- 4.

Strand 2: Environmental Processes and Systems (2.1—Earth’s physical and living systems, 2.2—Humans and their societies, 2.3—Environment and society)

(Example: Undergraduate course in ecology)

- 1.
- 2.
- 3.
- 4.

Strand 3: Skills for Understanding and Addressing Environmental Issues (3.1—Skills for analyzing and investigating environmental issues, 3.2—Decision-making and action skills)

- 1.
- 2.
- 3.
- 4.

Strand 4: Personal and Civic Responsibility

- 1.
- 2.
- 3.
- 4.

Handout D.1

Activity #3: History of Environmental Education Timeline

AMERICAN NATURE STUDY SOCIETY (ANSS)

ANSS was organized to promote critical investigation of all phases of nature-study in schools, especially all studies of nature in elementary schools. ANSS was devoted to the appreciation and understanding of our natural world. ANSS' memorable seven-word slogan: **Excellence in Nature Study, Writing and Appreciation** gave it focus for a century. ANSS' publications, *Nature Study Review* and then, *Nature Magazine*, became a magnet for nature writers.

SOIL CONSERVATION SERVICE

Hugh Bennett, director of the US Soil Erosion Service spoke to Congress about the need to end destructive farming and ranching practices. As if on cue, the chamber was blackened by a cloud of soil that had blown in from the Great Plains states, a distance of 2,000 miles. Bennett's point had been made more powerfully than any words could express. Less than 2 weeks after that episode Congress passed the bill creating the Soil Conservation Service. Conservation, and the education for its need, had finally become a cause célèbre in the USA. Conservation education steadily gained momentum throughout the middle of the twentieth century and remains a robust part of the educational mosaic today.

NATIONAL EDUCATION ASSOCIATION

The National Education Association assumes a leadership role for conservation education in the schools.

WISCONSIN CONSERVATION EDUCATION STATUTE

Wisconsin becomes the first state to enact a state statute requiring preservice teachers to have "... adequate preparation in the conservation of natural resources."

IUCN – FIRST DOCUMENTED USE OF TERM ENVIRONMENTAL EDUCATION

Thomas Pritchard, Deputy Director of the Nature Conservancy in Wales, uses the term "environmental education" at the Conference for the Establishment of the International Union for the Protection of Nature (IUCN) in Paris. This is perhaps the first public professional use of the term.

CONSERVATION EDUCATION ASSOCIATION

The Conservation Education Association is formed to support the many educators working in the field of conservation education.

ASSOCIATION OF INTERPRETIVE NATURALISTS

The Association of Interpretative Naturalists (now the National Association for Interpretation) is formed.

RURAL STUDIES ASSOCIATION

Rural Studies Association, now known as the National Association for Environmental Education (NAEE), is founded in the United Kingdom.

RANGER RICK

The National Wildlife Federation publishes the first edition of *Ranger Rick's Nature Magazine* which is still going over 50 years later.

COUNCIL FOR ENVIRONMENTAL EDUCATION (UNITED KINGDOM)

The Council for Environmental Education (CEE) is the national strategic organization for environmental education in England. CEE's membership includes 73 national organizations and an ever-increasing, diverse network of organizations with interests in education, the environment and sustainable development.

ENVIRONMENTAL EDUCATION (JOURNAL)

Professor Clay Schoenfeld begins the journal, *Environmental Education*, later renamed *The Journal of Environmental Education*.

Dr. William Stapp and his students at the University of Michigan formally develop and publish a definition of "environmental education" in the first edition of the journal.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The National Environmental Policy Act (P. L. 91-190) is passed. "The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."

EARTH DAY

Gaylord Nelson, at the time a US Senator from Wisconsin, had for some time envisioned an environmental teach-in (modeled on civil rights and antiwar sit-ins) that would raise public awareness on critical environmental issues. Denis Hays, a Harvard law student collaborated with Nelson in enlisting the aid of campus activists from across the country for an environmental teach-in that became known as Earth Day. It involved an estimated 20 million people with participation by nearly 1,500 college campuses.

WESTERN REGIONAL ENVIRONMENTAL EDUCATION COUNCIL (WREEC)

WREEC (now the Council for Environmental Education) is created as a "... unique effort to create a partnership and network between education and natural resource professionals in support of environmental education."

ADDRESS TO CONGRESS BY A PRESIDENT OF THE U.S.

It is also vital that our entire society develop a new understanding and a new awareness of man's relation to his environment—what might be called “environmental literacy.” This will require the development and teaching of environmental concepts at every point in the education process.

NATIONAL ENVIRONMENTAL EDUCATION ACT

The National Environmental Education Act authorizes the creation of an Office of Environmental Education in the U.S. Dept. of Health, Education and Welfare; establishment of a National Advisory Council for environmental education; and establishment of a domestic grants program

NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION

The National Association for Environmental Education (now the North American Association for Environmental Education or NAAEE) is founded. NAAEE is a professional association for environmental educators.

UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT

United Nations Conference on the Human Environment results in a declaration containing 26 principles. Principle 19 of the Stockholm Declaration specifically calls for "education in environmental matters, for the younger generation as well as adults." Recommendation 96 calls for the provision of environmental education as a means to address environmental issues worldwide.

INTERNATIONAL WORKSHOP ON ENVIRONMENTAL EDUCATION

Held in Belgrade, Yugoslavia and sponsored by the UNESCO, the workshop resulted in what became known as The Belgrade Charter. The Belgrade Charter built on the framework of Stockholm and described the goals, objectives, audiences, and guiding principles of EE and proposed what has become the most widely accepted definition of EE: *Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones.*

PROJECT LEARNING TREE

Western Regional Environmental Education Council (now the Council for Environmental Education) and the American Forest Institute (now the American Forest Foundation) develop the environmental education program Project Learning Tree.

INTERGOVERNMENT CONFERENCE ON ENVIRONMENTAL EDUCATION

The definitive codification of EE as an international enterprise ultimately came out of the world's first Intergovernmental Conference on Environmental Education held in Tbilisi, Georgia, USSR. The document now known as *The Tbilisi Declaration* was formulated during this conference and in many quarters remains the definitive statement on what EE is and ought to be.

AUSTRALIAN ASSOCIATION FOR ENVIRONMENTAL EDUCATION

Australian Association for Environmental Education is founded.

FOUNDATION FOR ENVIRONMENTAL EDUCATION

Members of the European delegations to Tbilisi found the Foundation for Environmental Education in Europe to implement the conference recommendations. This organization later expands beyond Europe and currently manages a number of international programs, including Eco-Schools, Green Key, Blue Flag, Learning About Forests, and Young Reporters.

ENVIRONMENTAL EDUCATION ASSOCIATION OF SOUTHERN AFRICA

Environmental Education Association of Southern Africa is founded.

PROJECT WILD

WREEC and the Western Association of Fish and Wildlife Agencies develop Project WILD. Project WILD sponsors conservation and environmental education programs with a focus on wildlife for grades K-12.

CENTER FOR ENVIRONMENTAL EDUCATION

Centre for Environment Education (CEE) was established as a Centre of Excellence of the Ministry of Environment and Forests, Government of India. As a national institution, CEE's mandate is to promote environmental awareness nationwide.

BRUNTLAND REPORT

The World Commission on Environment and Development publishes the *Brundtland Report*. Also known as *Our Common Future*, this report introduced the idea of sustainable development in which environmental protection and economic growth are viewed as interdependent concepts.

UNITED CHURCH OF CHRIST COMMISSION FOR RACIAL JUSTICE

The United Church of Christ's Commission for Racial Justice issues the report *Toxic Wastes and Race in the United States: A National Report on the Racial and Socioeconomic Characteristics of Communities with Hazardous Waste Sites*.

RHODES UNIVERSITY, SOUTH AFRICA

The Murray & Roberts Chair of Environmental Education is founded at Rhodes University in Cape Town, South Africa. The Chair establishes Rhodes as a leading organization for environmental education research and academic training in Africa.

NATIONAL ENVIRONMENTAL EDUCATION ACT

U.S. Congress passes the National Environmental Education Act (P. L. 101-619). The act authorizes the following: An Office of Environmental Education in the U.S. Environmental Protection Agency; An environmental education and training program; environmental education grants; student fellowships; the President's Environmental Youth Awards; the Federal Task Force and National Advisory Council; the National Environmental Education and Training Foundation (NEETF)

ENVIRONMENTAL JUSTICE

The First **National People of Color Environmental Leadership Summit** is held in Washington, DC. Summit participants adopt the Principles of Environmental Justice. The following year the U.S. Environmental Protection Agency establishes the Office of Environmental Justice.

CONFERENCE ON ENVIRONMENT AND DEVELOPMENT

The United Nations conducts the Conference on Environment and Development in Rio de Janeiro, Brazil. Chapter 36 of Agenda 21 focuses on "reorienting education towards sustainable development; increasing public awareness; and promoting training."

GUIDELINES FOR EXCELLENCE

The North American Association for Environmental Education initiates the **National Project for Excellence in Environmental Education** which provides guidelines for the development and assessment of EE materials as well as benchmarks for practitioner and student knowledge on environmental topics.

PROJECT WET

The Council for Environmental Education and The Watercourse initiated Project WET (Water Education for Teachers). Project WET facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources in students K-12.

INTERNATIONAL CONFERENCE ON ENVIRONMENT AND SOCIETY

UNESCO conducts the *International Conference on Environment and Society: Education and Public Awareness for Sustainability*, in Thessaloniki, Greece (also known as Tbilisi+20). Nearly 1,200 experts from 84 countries attend the conference, which results in the Declaration of Thessaloniki.

AUSTRALIAN NATIONAL ACTION PLAN

The Australian government publishes a *National Action Plan* for integrating environmental education in both formal and non-formal education sectors.

JOHANNESBURG SUMMIT

The United Nations Commission on Sustainable Development holds the Johannesburg Summit in Johannesburg, South Africa. “The summit brought together tens of thousands of participants to focus the world’s attention and direct action toward ...conserving our natural resources in a world that is growing in population, with ever-increasing demands for food, water, shelter, sanitation, energy, health services and economic security.”

DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The Centre for Environment Education holds the Education for a Sustainable Future Conference in Ahmedabad, India, the first international gathering of the UN Decade of Education for Sustainable Development (2005-2014). More than 800 learners, thinkers, and practitioners from over 40 countries attend the conference. Conference participants produce the Ahmedabad Declaration on education for sustainable development.

NCATE STANDARDS

National Council for the Accreditation of Teacher Education (NCATE) adopts EE standards in 2007, thus holding EE teacher training programs in NCATE-accredited colleges of education to high standards of performance.

NO CHILD LEFT INSIDE

The United States House of Representatives overwhelmingly passed the *No Child Left Inside Act* introduced by Representative John Sarbanes (Maryland) in a bi-partisan vote of 293-109 (the bill failed to pass the United States Senate and become law).

This legislative effort is supported by the No Child Left Inside Coalition, which was led by the Chesapeake Bay Foundation and included more than 2,000 environmental, educational, business, health care, faith-based, and other organizations from all 50 states, representing more than 50 million people.

ROSA PARKS AND GRACE LEE BOGGS OUTSTANDING SERVICE AWARD

NAAEE launches a new award in honor of activists Rosa Parks and Grace Lee Boggs. Each year, this award recognizes a person of color for leadership in educating and promoting action to support environmental education and environmental justice at the local, state, or global level. The first recipient of the award was Abby Ybarra, a member of the Yaqui Nation and educational consultant at Project Indigenous.

GREEN RIBBON SCHOOLS

The U.S. Department of Education launches the Green Ribbon Schools Award to recognize schools, districts, and institutions of higher education.

DEVELOPING A FRAMEWORK FOR ASSESSING ENVIRONMENTAL LITERACY

NAAEE releases *Developing a Framework for Assessing Environmental Literacy*, a comprehensive, research-based description of environmental literacy.

TAIWAN EE ACT

The Taiwan Environmental Education Act - one of the most comprehensive in the world - comes into force. In addition to providing funding for EE and a system of professional certification, the act requires that government agencies, enterprises, organizations and schools to implement no less than four hours EE every year. This means that even the President must have four hours a year of environmental education.

NATURAL START ALLIANCE

The Natural Start Alliance is a network of people and organizations that believe that all young children need frequent opportunities to experience, learn from, and care for nature and the environment through high-quality education. The Alliance, a project of the North American Association for Environmental Education, serves as a backbone organization to focus and amplify the collective impact of the people and organizations that share this common vision.

EVERY CHILD SUCCEEDS ACT

The *Every Child Succeeds Act* becomes law, replacing *No Child Left Behind*. The much-anticipated bill includes language that, for the first time, supports opportunities to provide students with environmental education and hands-on, field-based learning experiences.

GLOBAL ENVIRONMENTAL EDUCATION PARTNERSHIP

At the NAAEE conference in Madison, Wisconsin, the Global Environmental Education Partnership (GEEP) celebrates its North American launch. The GEEP is a global partnership committed to advancing environmental literacy to create a more just and sustainable future through the power of education. GEEP's founding partners are the U.S. Environmental Protection Agency, the Taiwan Environmental Protection Administration, and NAAEE.

30 UNDER 30

Each year, NAAEE recognizes individuals from around the world who are making a difference through environmental education.

UNITED ARAB EMIRATES (UAE)

The United Arab Emirates (UAE) signed an agreement with the International Renewable Energy Agency (IRENA) to cooperate in the integration of renewable energy and sustainable development in the UAE's education system.

Handout D.2

Activity #3: History of Environmental Education Timeline

Answer Sheet

1908

AMERICAN NATURE STUDY SOCIETY (ANSS)

ANSS was organized to promote critical investigation of all phases of nature-study in schools, especially all studies of nature in elementary schools. ANSS was devoted to the appreciation and understanding of our natural world. ANSS' memorable seven-word slogan: **Excellence in Nature Study, Writing and Appreciation** gave it focus for a century. ANSS' publications, *Nature Study Review* and then, *Nature Magazine*, became a magnet for nature writers.

1935

SOIL CONSERVATION SERVICE

Hugh Bennett, director of the US Soil Erosion Service spoke to Congress about the need to end destructive farming and ranching practices. As if on cue, the chamber was blackened by a cloud of soil that had blown in from the Great Plains states, a distance of 2,000 miles. Bennett's point had been made more powerfully than any words could express. Less than 2 weeks after that episode Congress passed the bill creating the Soil Conservation Service. Conservation, and the education for its need, had finally become a cause célèbre in the USA. Conservation education steadily gained momentum throughout the middle of the twentieth century and remains a robust part of the educational mosaic today.

1935

NATIONAL EDUCATION ASSOCIATION

The National Education Association assumes a leadership role for conservation education in the schools.

1935

WISCONSIN CONSERVATION EDUCATION STATUTE

Wisconsin becomes the first state to enact a state statute requiring preservice teachers to have "... adequate preparation in the conservation of natural resources."

1948

IUCN – FIRST DOCUMENTED USE OF TERM ENVIRONMENTAL EDUCATION

Thomas Pritchard, Deputy Director of the Nature Conservancy in Wales, uses the term "environmental education" at the Conference for the Establishment of the International Union for the Protection of Nature (IUCN) in Paris. This is perhaps the first public professional use of the term.

1953

CONSERVATION EDUCATION ASSOCIATION

The Conservation Education Association is formed to support the many educators working in the field of conservation education.

1954

ASSOCIATION OF INTERPRETIVE NATURALISTS

The Association of Interpretative Naturalists (now the National Association for Interpretation) is formed.

1960

RURAL STUDIES ASSOCIATION

Rural Studies Association, now known as the National Association for Environmental Education (NAEE), is founded in the United Kingdom.

1967

RANGER RICK

The National Wildlife Federation publishes the first edition of *Ranger Rick's Nature Magazine* which is still going over 50 years later.

1968

COUNCIL FOR ENVIRONMENTAL EDUCATION (UNITED KINGDOM)

The Council for Environmental Education (CEE) is the national strategic organization for environmental education in England. CEE's membership includes 73 national organizations and an ever-increasing, diverse network of organizations with interests in education, the environment and sustainable development.

1969

ENVIRONMENTAL EDUCATION (JOURNAL)

Professor Clay Schoenfeld begins the journal, *Environmental Education*, later renamed *The Journal of Environmental Education*.

Dr. William Stapp and his students at the University of Michigan formally develop and publish a definition of "environmental education" in the first edition of the journal.

1969

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

The National Environmental Policy Act (P. L. 91-190) is passed. "The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality."

April 1970

EARTH DAY

Gaylord Nelson, at the time a US Senator from Wisconsin, had for some time envisioned an environmental teach-in (modeled on civil rights and antiwar sit-ins) that would raise public awareness on critical environmental issues. Denis Hays, a Harvard law student collaborated with Nelson in enlisting the aid of campus activists from across the country for an environmental teach-in that became known as Earth Day. It involved an estimated 20 million people with participation by nearly 1,500 college campuses.

1970

WESTERN REGIONAL ENVIRONMENTAL EDUCATION COUNCIL (WREEC)

WREEC (now the Council for Environmental Education) is created as a "... unique effort to create a partnership and network between education and natural resource professionals in support of environmental education."

1970

ADDRESS TO CONGRESS BY A PRESIDENT OF THE U.S.

President Nixon stated:

It is also vital that our entire society develop a new understanding and a new awareness of man's relation to his environment—what might be called "environmental literacy." This will require the development and teaching of environmental concepts at every point in the education process.

1970

NATIONAL ENVIRONMENTAL EDUCATION ACT

The National Environmental Education Act authorizes the creation of an Office of Environmental Education in the U.S. Dept. of Health, Education and Welfare; establishment of a National Advisory Council for environmental education; and establishment of a domestic grants program

1971

NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION

The National Association for Environmental Education (now the North American Association for Environmental Education or NAAEE) is founded. NAAEE is a professional association for environmental educators.

1972

UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT

United Nations Conference on the Human Environment results in a declaration containing 26 principles. Principle 19 of the Stockholm Declaration specifically calls for "education in environmental matters, for the younger generation as well as adults." Recommendation 96 calls for the provision of environmental education as a means to address environmental issues worldwide.

1975

INTERNATIONAL WORKSHOP ON ENVIRONMENTAL EDUCATION

Held in Belgrade, Yugoslavia and sponsored by the UNESCO, the workshop resulted in what became known as The Belgrade Charter. The Belgrade Charter built on the framework of Stockholm and described the goals, objectives, audiences, and guiding principles of EE and proposed what has become the most widely accepted definition of EE:

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones.

1976

PROJECT LEARNING TREE

Western Regional Environmental Education Council (now the Council for Environmental Education) and the American Forest Institute (now the American Forest Foundation) develop the environmental education program Project Learning Tree.

1977

INTERGOVERNMENT CONFERENCE ON ENVIRONMENTAL EDUCATION

The definitive codification of EE as an international enterprise ultimately came out of the world's first Intergovernmental Conference on Environmental Education held in Tbilisi, Georgia, USSR. The document now known as *The Tbilisi Declaration* was formulated during this conference and in many quarters remains the definitive statement on what EE is and ought to be.

1980

AUSTRALIAN ASSOCIATION FOR ENVIRONMENTAL EDUCATION

Australian Association for Environmental Education is founded.

1981

FOUNDATION FOR ENVIRONMENTAL EDUCATION

Members of the European delegations to Tbilisi found the Foundation for Environmental Education in Europe to implement the conference recommendations. This organization later expands beyond Europe and currently manages a number of international programs, including Eco-Schools, Green Key, Blue Flag, Learning About Forests, and Young Reporters.

1982

ENVIRONMENTAL EDUCATION ASSOCIATION OF SOUTHERN AFRICA

Environmental Education Association of Southern Africa is founded.

1983

PROJECT WILD

WREEC and the Western Association of Fish and Wildlife Agencies develop Project WILD. Project WILD sponsors conservation and environmental education programs with a focus on wildlife for grades K-12.

1984

CENTER FOR ENVIRONMENTAL EDUCATION

Centre for Environment Education (CEE) was established as a Centre of Excellence of the Ministry of Environment and Forests, Government of India. As a national institution, CEE's mandate is to promote environmental awareness nationwide.

1987

BRUNTLAND REPORT

The World Commission on Environment and Development publishes the *Brundtland Report*. Also known as *Our Common Future*, this report introduced the idea of sustainable development in which environmental protection and economic growth are viewed as interdependent concepts.

1987

UNITED CHURCH OF CHRIST COMMISSION FOR RACIAL JUSTICE

The United Church of Christ's Commission for Racial Justice issues the report *Toxic Wastes and Race in the United States: A National Report on the Racial and Socioeconomic Characteristics of Communities with Hazardous Waste Sites*.

1990

RHODES UNIVERSITY, SOUTH AFRICA

The Murray & Roberts Chair of Environmental Education is founded at Rhodes University in Cape Town, South Africa. The Chair establishes Rhodes as a leading organization for environmental education research and academic training in Africa.

1990

NATIONAL ENVIRONMENTAL EDUCATION ACT

U.S. Congress passes the National Environmental Education Act (P. L. 101-619). The act authorizes the following: An Office of Environmental Education in the U.S. Environmental Protection Agency; An environmental education and training program; environmental education grants; student fellowships; the President's Environmental Youth Awards; the Federal Task Force and National Advisory Council; the National Environmental Education and Training Foundation (NEETF)

1991

ENVIRONMENTAL JUSTICE

The First National People of Color Environmental Leadership Summit is held in Washington, DC. Summit participants adopt the Principles of Environmental Justice. The following year the U.S. Environmental Protection Agency establishes the Office of Environmental Justice.

1992

CONFERENCE ON ENVIRONMENT AND DEVELOPMENT

The United Nations conducts the Conference on Environment and Development in Rio de Janeiro, Brazil. Chapter 36 of Agenda 21 focuses on “reorienting education towards sustainable development; increasing public awareness; and promoting training.”

1993

GUIDELINES FOR EXCELLENCE

The North American Association for Environmental Education initiates the ***National Project for Excellence in Environmental Education*** which provides guidelines for the development and assessment of EE materials as well as benchmarks for practitioner and student knowledge on environmental topics.

1995

PROJECT WET

The Council for Environmental Education and The Watercourse initiated Project WET (Water Education for Teachers). Project WET facilitates and promotes awareness, appreciation, knowledge, and stewardship of water resources in students K-12.

1997

INTERNATIONAL CONFERENCE ON ENVIRONMENT AND SOCIETY

UNESCO conducts the *International Conference on Environment and Society: Education and Public Awareness for Sustainability*, in Thessaloniki, Greece (also known as Tbilisi+20). Nearly 1,200 experts from 84 countries attend the conference, which results in the Declaration of Thessaloniki.

1999

AUSTRALIAN NATIONAL ACTION PLAN

The Australian government publishes a *National Action Plan* for integrating environmental education in both formal and non-formal education sectors.

2002

JOHANNESBURG SUMMIT

The United Nations Commission on Sustainable Development holds the Johannesburg Summit in Johannesburg, South Africa. “The summit brought together tens of thousands of participants to focus the world’s attention and direct action toward ...conserving our natural resources in a world that is growing in population, with ever-increasing demands for food, water, shelter, sanitation, energy, health services and economic security.”

2005

DECADE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The Centre for Environment Education holds the Education for a Sustainable Future Conference in Ahmedabad, India, the first international gathering of the UN Decade of Education for Sustainable Development (2005-2014). More than 800 learners, thinkers, and practitioners from over 40 countries attend the conference. Conference participants produce the Ahmedabad Declaration on education for sustainable development.

2007

NCATE STANDARDS

National Council for the Accreditation of Teacher Education (NCATE) adopts EE standards in 2007, thus holding EE teacher training programs in NCATE-accredited colleges of education to high standards of performance.

2008

NO CHILD LEFT INSIDE

The United States House of Representatives overwhelmingly passed the *No Child Left Inside Act* introduced by Representative John Sarbanes (Maryland) in a bi-partisan vote of 293-109 (the bill failed to pass the United States Senate and become law). This legislative effort is supported by the No Child Left Inside Coalition, which was led by the Chesapeake Bay Foundation and included more than 2,000 environmental, educational, business, health care, faith-based, and other organizations from all 50 states, representing more than 50 million people.

2009

ROSA PARKS AND GRACE LEE BOGGS OUTSTANDING SERVICE AWARD

NAAEE launches a new award in honor of activists Rosa Parks and Grace Lee Boggs. Each year, this award recognizes a person of color for leadership in educating and promoting action to support environmental education and environmental justice at the local, state, or global level. The first recipient of the award was Abby Ybarra, a member of the Yaqui Nation and educational consultant at Project Indigenous.

2011

GREEN RIBBON SCHOOLS

The U.S. Department of Education launches the Green Ribbon Schools Award to recognize schools, districts, and institutions of higher education.

2011

DEVELOPING A FRAMEWORK FOR ASSESSING ENVIRONMENTAL LITERACY

NAAEE releases *Developing a Framework for Assessing Environmental Literacy*, a comprehensive, research-based description of environmental literacy.

2011

TAIWAN EE ACT

The Taiwan Environmental Education Act - one of the most comprehensive in the world - comes into force. In addition to providing funding for EE and a system of professional certification, the act requires that government agencies, enterprises, organizations and schools to implement no less than four hours EE every year. This means that even the President must have four hours a year of environmental education.

2013

NATURAL START ALLIANCE

The Natural Start Alliance is a network of people and organizations that believe that all young children need frequent opportunities to experience, learn from, and care for nature and the environment through high-quality education. The Alliance, a project of the North American Association for Environmental Education, serves as a backbone organization to focus and amplify the collective impact of the people and organizations that share this common vision.

2015

EVERY CHILD SUCCEEDS ACT

The *Every Child Succeeds Act* becomes law, replacing *No Child Left Behind*. The much-anticipated bill includes language that, for the first time, supports opportunities to provide students with environmental education and hands-on, field-based learning experiences.

2016

GLOBAL ENVIRONMENTAL EDUCATION PARTNERSHIP

At the NAAEE conference in Madison, Wisconsin, the Global Environmental Education Partnership (GEEP) celebrates its North American launch. The GEEP is a global partnership committed to advancing environmental literacy to create a more just and sustainable future through the power of education. GEEP's founding partners are the U.S. Environmental Protection Agency, the Taiwan Environmental Protection Administration, and NAAEE.

2016

30 UNDER 30

Each year, NAAEE recognizes individuals from around the world who are making a difference through environmental education.

2019

UNITED ARAB EMIRATES (UAE)

The United Arab Emirates (UAE) signed an agreement with the International Renewable Energy Agency (IRENA) to cooperate in the integration of renewable energy and sustainable development in the UAE's education system.

Handout E

Activity #4: Do's and Don'ts

Procedure

1. Read the following scenario.
2. Imagine you are giving some guidance to civics teachers who will be teaching about a controversial issue that they care deeply about, as individuals, such as gun rights, whether the death penalty should be abolished, or whether animal testing should be banned.
3. What would be your advice: What would be on your “do’s” and “don’ts” list for high-quality instruction?
4. Write down your list of “do’s” and “don’ts.”
5. With others in your class, compile a group list of “do’s” and “don’ts.”
6. Read John Hug’s essay, *Two Hats (below)*.
7. Revisit your group “do’s” and “don’ts” list. With an environmental education lens:
 - What items would you add to your “do’s” and “don’ts” list? Why?
 - What would you delete or change? Why?
8. Update your list.

Scenario

A public middle school civics teacher in a politically polarized community is preparing to teach a unit about political parties during an election year. The teacher wants to include a discussion of public policy stands on controversial issues such as abortion, immigration, and the death penalty. This teacher will need to discuss with students these current issues and how different candidates approach those issues.

If you were giving some guidance to civics teachers, what would be on your “do’s” and “don’ts” list for high-quality instruction?

Two Hats

By John Hug

It would appear that environmental educators have a bad case of the “two hats” problem. We have come by the problem naturally and, therefore, we have paid little attention to it.

The problem is simply that industry, utilities, labor, business, media, and other segments of the population and the general public have consistently recognized only one hat when talking about environmentalists and environmental educators. It is not uncommon for dedicated environmental educators to be summarily dismissed as troublemakers—environmentalists. This one-hat view is easily explained because environmental educators are almost always environmentalists. Perhaps definitions will help clarify the problem.

Any world citizen who advocates with greater or lesser action that wrongs against our environment must be stopped is an environmentalist. Perhaps the negative reputation environmentalists have stems from the dramatic and radical actions of a few.

An environmental educator, on the other hand, is any world citizen who uses information and educational processes to help people analyze the merits of the many and varied points of view usually present on a given environmental issue. The environmental educator is not the “mediator,” “trade-off specialist” or “negotiator,” but a developer of skills and an information analyst who prepares the people (from any segment of the population) who will participate in environmental decision making.

Environmental educators, therefore, need to be as “value fair” or “value free” as they can when working in this role. They must scrupulously strive to get all the facts, examine and illuminate all the viewpoints, and keep from letting their own particular position (as an environmentalist) from mixing with their educator role.

My suggestion is simply that environmental educators make an effort to clarify the two distinct roles. At every opportunity, we should emphasize the neutral nature of environmental education activity. Strong advocates are all around us, each using the techniques of persuasion and propaganda to build their constituencies. We must, ourselves, be familiar with all sides, stand firm for each advocate’s right to be heard, and provide a rational stage for informed debate.

Environmental educators have the right and the duty to be environmentalists, but the dual roles must adhere to the original premise—to keep each hat on its proper head, while utilizing to the fullest the professional skills of the environmental educators.

Reference

Originally published in Aldrich, James L., A.M. and George, A.A. (Eds.) (1977). The Report of the North American Regional Seminar on Environmental Education for the Real World. Columbus, OH: SMEAC Information Reference Center, <https://files.nc.gov/deqee/documents/files/two-hats.pdf>

Handout F

Activity #5: Analyzing Instructional Approaches

Procedure:

1. Take a moment to think about one of your favorite instructional approaches or teaching methods. What makes it so special for you?
2. Brainstorm common instructional strategies used in environmental education. Write these on a piece of paper.
3. Read **Theme #4: Planning and Implementing Environmental Education** (pp. 20-25) in the *Professional Development Guidelines*. For this activity, focus on Guideline 4.1: Knowledge of Learners, Guideline: 4.5: Technologies that Assist Learning, and Guideline 4.6: Settings for Instruction.
4. Compare your list of instructional strategies (Step #2) to the list of Essential Approaches to Environmental Education Instruction found in **Theme #4**, p. 21.
5. Select one instructional strategy to explore further, either from your list or the list in the *Professional Development Guidelines*.
6. Using the Internet or other research resources, research an instructional approach.
7. Complete the form below (A – E).
8. Once you have completed your analysis, create a poster that reflects your thinking.
9. Email you completed poster or a photo of your poster to your instructor before the next class meeting.

Instructional Approach: _____

A. Brief Description of the Instructional Approach

B. Example Activity: How can this instructional approach be used in environmental education?

C. Knowledge of Learners: How might you adapt this method for use with an adult audience? Preschoolers? Learners with developmental disabilities?

D. Setting for Instruction: Describe any specific concerns or considerations.

E. Technology: What technologies might be used to assist learning?

Handout G
Activity #6 Fostering Learning and Promoting Inclusivity
Educator Observation Rubric

Which Guideline were you assigned? _____

Procedure:

1. Read your assigned Guideline (e.g., 5.1, 5.2, 5.3).
2. Review the rubric template.
3. Read the example and consider how the criteria, *Organizing physical space*, is elaborated across four levels of educator application, starting with the highest level of success (Highly Effective) and ending with the lowest level (Does Not Meet Expectation).
4. Individually or as a group, determine what criteria should be used to gauge the novice educators' ability to apply your assigned guideline. Write at least three criteria in the left-hand column.
5. Taking one criterion at a time, write a description for each of the four levels (e.g., Highly Effective, Effective, Improvement Necessary, and Does Not Meet Expectation). Each should describe a different level of success. You may want to begin by writing a description of what it means for an educator to be Highly Effective and then write a description of what it means if the teaching Does Not Meet Expectation. Then, complete the middle two levels, Effective and Improvement Necessary.
6. Review your work. Be prepared to discuss how you addressed the inclusion of all learners.

Fostering Learning and Promoting Inclusivity Educator Observation Rubric

Criteria	Highly Effective	Effective	Improvement Necessary	Does Not Meet Expectation
Example: <i>Organizing physical space</i>	<i>The classroom environment is safe, and learning is accessible to all participants, including those with special needs. The educator makes effective use of physical resources, including computer technology. The educator ensures that the physical arrangement is appropriate to the learning activities. Participants contribute to the use or adaptation of the physical environment to advance learning.</i>	<i>The classroom is safe and participants have equal access to learning activities; the educator ensures that the furniture arrangement is appropriate to the learning activities and uses physical resources, including computer technology, effectively.</i>	<i>The classroom is safe, and essential learning is accessible to most participants. The educator makes modest use of physical resources, including computer technology. The educator attempts to adjust the classroom furniture for a lesson or, if necessary, to adjust the lesson to the furniture, but with limited effectiveness.</i>	<i>The classroom environment is unsafe or learning is not accessible to many. There is poor alignment between the arrangement of furniture and resources, including computer technology, and the lesson activities.</i>

Handout H Classroom Garden⁵

Grades K-4

Objectives

Learners will understand that some foods are sustainable and can be regrown from scraps, then used in a meal.

Materials Needed

lettuce leaves, pineapple top, celery bottom, potato peelings with eyes, several small planters, several bowls with water, mister

Procedure

1. Ask students where vegetables come from.
2. Ask students if they know how to grow a plant like lettuce or potatoes.
3. Discuss how each of these plants grow over time.
4. Explain to students that some plants can be grown from other pieces of the same type of plant that we typically throw away, such as the bottom of a celery stalk or the peeling on a potato.
5. Show students the plant pieces that will be planted and a whole plant if available. Ask students if they think new plants will grow from the clippings. Have students guess how long it will take to grow each new plant.
6. Allow students to plant each new plant. Also allow students to care for and monitor the plants daily.
7. As plants reach maturity, prepare and invite students to taste a healthy snack from what they grew.

⁵ Adapted from Willis, A. (n.d.) Classroom Garden From Trash, Lesson Plans, Teacher.org, <https://www.teacher.org/lesson-plan/classroom-garden-from-trash/>