

Integrating Environmental Education Curriculum into Outdoor Education & Recreation Programs

Association of Outdoor Education & Recreation webinar
September 7, 2023: Part II of II

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Outline of Session

Principles & Concepts



Defining Environmental Education (EE)



Effective EE: Research Findings



EE Standards

Application



Curriculum:

- Goals
- Lesson/activity plans
- Assessments
- Methodologies
- Syllabus



Limitations

Curriculum

Curriculum: a plan for learning

Three components:

- Goals
- Lesson Plans/Activity Plans
- Assessment

Adjunct:

- Syllabus

Informed by methodologies

- Experiential education
- Adventure-based learning
- Inquiry-based learning
- Progression



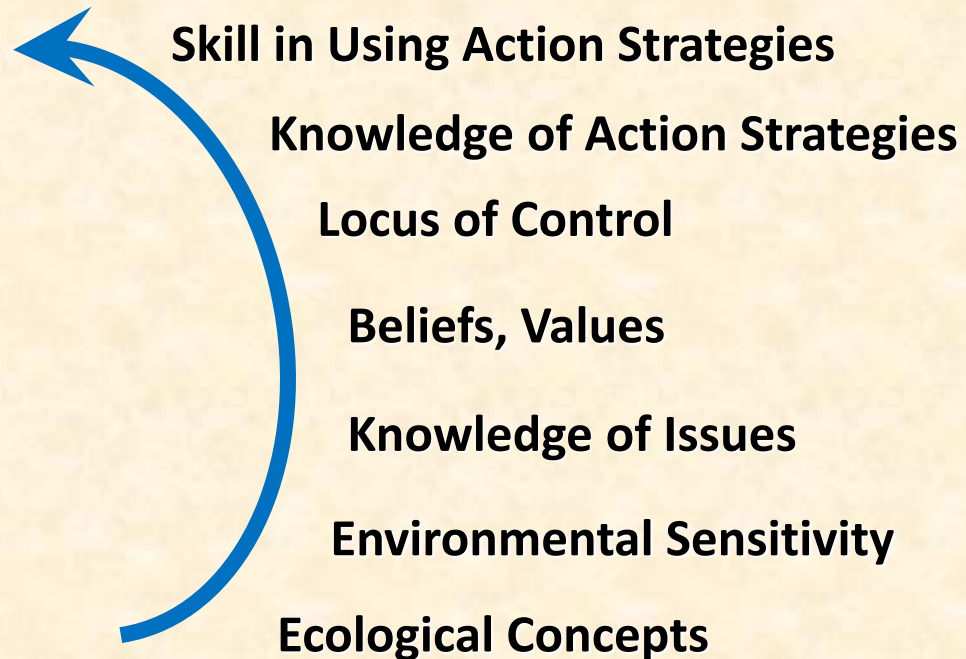
Curriculum: Goals

Establish goals first

Goals: knowledge, skills, abilities and values

- Learners will understand...
- Learners will develop skills in...
- Learners will have the ability to...
- Learners will value...

**Responsible
Environmental
Behavior**



Curriculum: Goals

Five day hiking and climbing outdoor adventure education trip

- Objective 1: Learners will understand aspects of the **natural history and ecology** of the area.
- Objective 2: Learners will have opportunities to develop **affective connections** to the natural world.
- Objective 3: Learners will have opportunities to **develop self-efficacy**.
- Objective 4: Learners will **learn about environmental issues**.
- Objective 5: Learners will gain **knowledge regarding action strategies for addressing environmental issues**.



Curriculum: Goals

Day 1	Day 2	Day 3	Day 4	Day 5
<p>Themes: exploration & fun</p> <p>Group arrives 11:30</p> <p>Discovery day hike</p> <p>Evening Program: Campfire, songs, skits</p> <p>▲ : Basecamp</p>	<p>Themes: nature, culture, empowerment</p> <p>Rock climbing adventure</p> <p>Evening Program: Night hike</p> <p>▲ : Basecamp</p>	<p>Theme: environmental issues</p> <p>Talus cave scramble</p> <p>Backpack</p> <p>Evening: environmental issues</p> <p>▲ : Backcountry</p>	<p>Theme: action strategies</p> <p>Return from backpack</p> <p>Evening: Campfire, Town Hall</p> <p>▲ : Basecamp</p>	<p>Pack up</p> <p>Group departs 9:30</p>

Curriculum: Goals

1: Learners will understand aspects of the [natural history and ecology](#) of the area.

Method: **Trailside activities & interpretation.**

2: Learners will have opportunities to develop [affective connections](#) to the natural world.

Method: **Solo time, sensory awareness, journaling, readings**

3: Learners will have opportunities to [develop self-efficacy](#).

Method: **Rock climbing**

4: Learners will [learn about environmental issues](#).

Method: **Lesson on threats to desert tortoise**

5: Learners will gain [knowledge regarding action strategies for addressing environmental issues](#).

Method: **'Town hall' debate on environmental issue; advocacy discussion**



Curriculum: Assessment

Program-End Oral Interview

1. In what areas were the goals of the program met?
2. In what areas were the goals of the program not met?
3. Was there anything you particularly liked about the program?
4. Are there things about the program that you wish had been different?
5. [Further questions about logistics, food service, safety, staffing, etc. can begin here]

Curriculum: Lesson Plans

A description of how learning activity is conducted

- 1 Intended learning outcomes,
- 2 Learning activities, and
- 3 Assessments of learning outcome achievement

Learning activity section:

- Introduction
- Lesson Body
- Conclusion

- For each activity
- Written in advance
- Reviewed and approved in advance, as appropriate



Curriculum: Lesson Plans

Name:

Date:

Lesson Title:

Age Group:

Size of Group:

Activity Length:

Activity Area:

Goals:

Objectives:

Concepts:

Materials:

References/resources:

Safety Considerations:

Program Outline:

Introduction

Body

Transference and Conclusion

Evaluation, Comments, Improvements:

Lesson Plan	
Name:	Group:
Date:	
Activity Title:	
Participant Age(s):	Activity Length:
Activity Area(s):	
Materials	Re-usable/ Equipment:
	Non-reusable:
References & Resources:	
Safety Considerations:	
Step 1: Outcomes	
Outcomes <i>Knowledge, skills, abilities or values developed during the activity:</i>	
Step 2: Assessment	
Assessing Outcomes Achievement <i>Describe how outcomes achievement will be evaluated</i>	
Step 3: Learning Activity	
Intro:	
Body:	
Conclusion:	
Notes	

Lesson Plan

Name:

Group:

Date:

Activity Title:

Participant Age(s):

Activity Length:

Activity Area(s):

Materials

Re-usable/ Equipment:

Non-reusable:

References & Resources:

Safety Considerations:

Step 1: Outcomes

Outcomes

*Knowledge, skills, abilities
or values developed during
the activity:*

Step 2: Assessment

Assessing Outcomes Achievement

*Describe how outcomes
achievement will be
evaluated*

Step 3: Learning Activity

Intro:

__ minutes

Body:

__ minutes

Conclusion:

__ minutes

Notes

Lesson Plan

Name: Freida Fungi

Group: Midvale

Date: 2023-05-01

Activity Title: Half-day rock climbing

Participant Age(s): 14-15

Activity Length: 4 hours

Activity Area(s): Granite Wall

Materials

Re-usable/ Equipment: 3 top rope climbing sets, rescue pack

Non-reusable:

References & Resources:

Instructor Handbook

Safety Considerations:

Standard policies & procedures for climbing

Step 1: Outcomes

Outcomes

Knowledge, skills, abilities or values developed during the activity:

Participants will have a positive attitude regarding encountering challenges.
Participants will see the value in trusting and receiving support from others.

Step 2: Assessment

Assessing Outcomes

Achievement

Describe how outcomes achievement will be evaluated

1. Participants will be invited after climbs and during the post-activity debrief to share how the climbing activity influenced their attitudes towards challenge and working collaboratively with others.
2. Participants will complete the pre-test/post-test evaluating resilience and collaboration at the end of the program.

Step 3: Learning Activity

Intro:

1. Welcome, site tour: introduce activity; set boundaries, safe zone, fall zone.
2. Helmets & harnesses.
3. Safety briefing (see standard briefing in field handbook).
4. Tonset/goal-setting. Encourage expanding comfort zone. Perceived vs. real risk. Discuss communication with belayer, asking for support from group.
5. Belay school.

45 minutes

Body:

- Participants climb, abseil/rappel and belay (with back-up staff belayer).
- During climbs and abseils, participants are encouraged to persevere, problem-solve, and ask for support (or quiet) from their belayer and group members while on the rock, in challenge by choice environment.
- After climbs/abseils, as staff are available, participants will be invited individually to process their experience, and discuss what helped them persevere when they got stuck or scared, and what was effective for them in asking for support from their belayer or other group members.
- For instance, participants may be asked how they found the resilience to continue, after getting stuck part way up a climb, or how they effectively worked with group members to ask for encouragement, quiet, advice about finding footholds, etc.
- All participants should have the opportunity to attempt multiple single-pitch climbs—either straightforward or challenging, their choice—abseil, and to belay.
- In addition to considering issues of resilience and teamwork, participants will be encouraged to enjoy themselves and have fun.

105 minutes

Conclusion:

Debrief questions may include:

- What happened on the rocks for you today? What was significant for you?
- Why was that significant for you?
- How does your experience working through challenges today influence how you might approach future challenges at home, work or school?
- How does asking for, receiving or giving the support you requested from your belayer or group members, or gave to climbers, influence how you might collaborate with others in the future to help achieve goals?
- Who belays you in your life? Who do you trust to support you?
- If you consider the rock wall to represent a challenge in your life, how does your taking on the challenges of climbing and abseiling—regardless of whether you completed any climbs or abseils—influence your attitude about taking on other challenges in life?

30 minutes

Notes

Calibrate debriefing questions to the mood and engagement of participants.

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Curriculum: Methodologies

Experiential education

A methodology in which educators purposefully engage with learners in direct experience and focused reflection.

Application:

- Structured & unstructured nature exploration to build **environmental sensitivity**
- Visit degraded areas to learn about **environmental issues, develop beliefs & values**
- Develop **internal locus of control** through overcoming structured challenges
- **Build skill in using action strategies** via conservation & advocacy



Curriculum: Methodologies

Adventure-Based Learning

An approach to learning in which learners overcome structured challenges to experience accomplishment & build confidence.

Application:

- Climbing, travel & other challenges foster **internal locus of control** and empower learners to take on environmental challenges



Curriculum: Methodologies

Inquiry-Based Learning

An approach to learning in which learners are guided to pose questions and figure out how to answer them.

Application:

- Excellent for learning about **natural history, ecology** and **environmental issues** through research and exploration
- Fosters engagement, curiosity and team skills



Curriculum: Methodologies

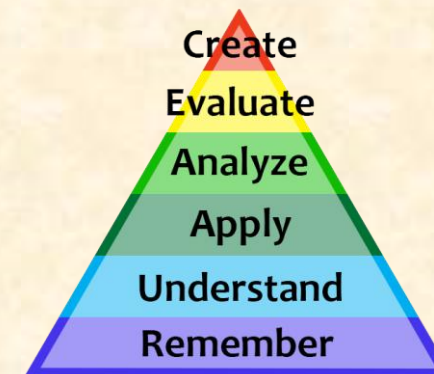
Progression

- Intentionally connecting learning activities to learners' prior experiences and previously gained knowledge (constructivism)
- Sequencing activities to build on each other
- Guiding learners through a sequence of cognitive processes (Bloom's taxonomy)

Application:

- Exploring environmental issues learners have experienced increases engagement
- Progressing through cognitive processes from learning to analyzing & creating enables knowledge to be effectively used

Day 1	Day 2	Day 3	Day 4	Day 5
Themes: exploration & fun Group arrives 11:30 Discovery day hike Evening Program: Campfire, songs, skits ▲ : Basecamp	Themes: nature, culture, empowerment Rock climbing adventure Evening Program: Night hike ▲ : Basecamp	Theme: environmental issues Talus cave scramble Backpack Evening: environmental issues ▲ : Backcountry	Theme: action strategies Return from backpack Evening: Campfire, Town Hall ▲ : Basecamp	Pack up Group departs 9:30



Curriculum: Syllabus

An outline of the topic or activities of an educational experience, often describing them in chronological order.

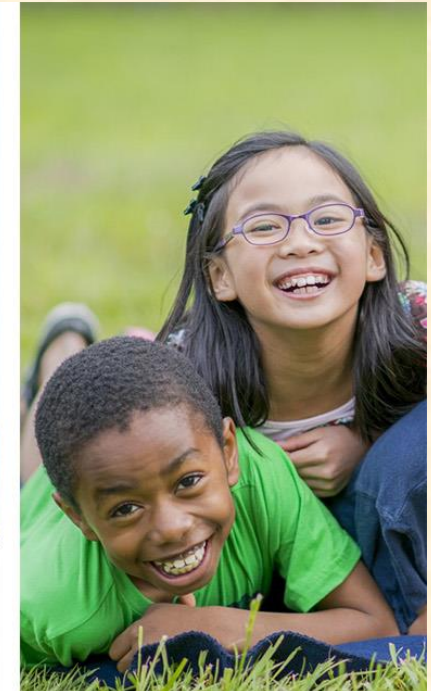
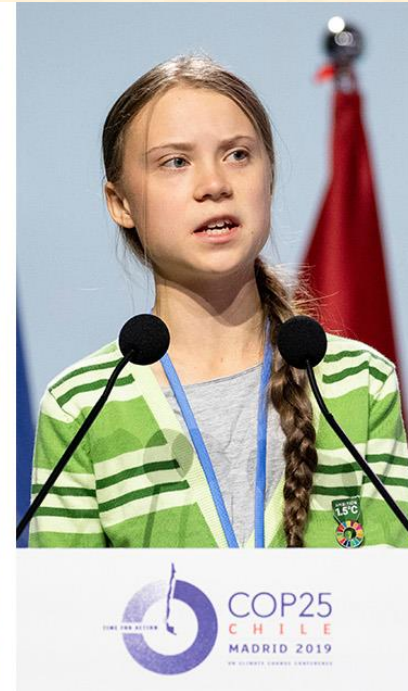
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Themes: exploration & fun	Themes: nature, culture, empowerment	Theme: environmental issues	Theme: action strategies	
Group arrives 11:30	Rock climbing adventure	Talus cave scramble	Return from backpack	Pack up
Discovery day hike	Evening Program: Night hike	Backpack	Evening: Campfire, Town Hall	Group departs 9:30
Evening Program: Campfire, songs, skits		Evening: environmental issues		
▲ : Basecamp	▲ : Basecamp	▲ : Backcountry	▲ : Basecamp	

Curriculum: Syllabus

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	
7:00		Morning Unit Time	Morning Unit Time	Morning Unit Time	Morning Unit Time	Pack Up/Clean Units	
8:00		Flag	Flag	Flag	Flag		
8:15		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast @ 8:45	
9:30							
10:00							
10:30							
11:00							
11:30							
12:00					Activity 3. Rock Wall (Locus of Control)	Activity 4. Local Food, Gardening Time, Compost Tour Pack-out Lunch (Ecological Concepts, Knowledge of Issues, Knowledge of Action Strategies, Skill in Using Action Strategies)	
12:30							
1:00		Lunch	Lunch	Lunch		Lunch	
1:30	Camper Check-In	Me-Time	Me-Time	Me-Time	Me-Time	Check-Out	
2:00							
2:30		Activity 1. Micro Hike (Ecological Concepts Environmental Sensitivity)					
3:00							
3:30							
4:00							
4:30							
5:00	Dinner						
5:45		Flag	Flag	Flag	Flag		
6:00	Dinner	Dinner	Dinner	Dinner	Dinner		
7:30	Opening Campfire				Closing Campfire		
8:00							
8:30							
9:00			Activity 2. Bat watching and Animal Dances (Knowledge of Issues, Beliefs & Values, Knowledge of Action Strategies)				
9:30	Evening Unit Time	Evening Unit Time	Evening Unit Time	Evening Unit Time	Evening Unit Time		
10:00	Lights Out	Lights Out	Lights Out	Lights Out	Lights Out		

Limitations

- Reconcile with limits of time & resources
- Keep in mind fostering global environmental sustainability not fully in your control
- Further investment needed to account for age-related considerations, ability-related considerations (physical, learning & other disabilities), equity & inclusion in EE, and incorporation of traditional ecological knowledge



Summary

Curriculum:

- Goals
- Lesson/activity plans
- Assessments
- Methodologies
 - Experiential education
 - Adventure-Based Learning
 - Inquiry-Based Learning
 - Progression
- Syllabus

Limitations



Further Information: viristar.com/aore-env-ed

North American Association for Environmental Education: <https://naaee.org/>

Global Environmental Education Partnership: <https://thegeep.org/>

Journal of Environmental Education: <https://www.tandfonline.com/toc/vjee20/current>

Hungerford, Harold R & Center for Instruction, Staff Development and Evaluation. **Essential Readings in Environmental Education.** (3rd Ed.) Stipes Publishing, 2005.

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Harold R. Hungerford & Trudi L. Volk (1990) **Changing Learner Behavior Through Environmental Education**, The Journal of Environmental Education, 21:3, 8-21, DOI: 10.1080/00958964.1990.10753743

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