



Measuring Environmental Education Outcomes – Fall 2012

Online professional development course

<http://civicecology.org/course-meeo.php>

Version: 2012-11-14

Description

Environmental education (EE) aims to achieve various goals. They include, for example, environmental awareness, pro-environmental behaviors, science learning, positive youth development, and community development. In addition, some consider that the goal of EE is environmental improvements such as air and water quality, habitat conservation, or increased neighborhood green space. How can we design programs to achieve these impacts? And, how can we measure progress toward various EE goals? Designed for professional development of educators, this course considers multiple outcomes of EE, and explores some tools measuring EE outcomes quantitatively. Participants will map their own “practical theory of change” to examine the connections between their EE activities, intended outcomes, and desired environmental impacts. Participant will learn about basic concepts of measurement and explore approaches to quantifying outcomes that can occur for individual learners, communities, and ecosystems. The course’s collaborative design also offers opportunity to build a network of peers in EE across various settings.

Learning Objectives

- (1) Describe your “practical theory of social change” linking EE activities and outcomes;
- (2) Understand key concepts and terminology of measurement such as construct, scale, validity, and reliability;
- (3) Be aware of ethical considerations in collecting and reporting data;
- (4) Explore existing measures of individual, community, and ecosystem outcomes; and their strengths and limitations;
- (5) Select and apply a sustainable measure to assess one intended outcome of your program;
- (6) Identify next steps to move forward with measuring outcomes in your EE program; and
- (7) Contribute to a support and productive online learning community.

Format

The course will facilitate collaboration and sharing expertise among environmental educators. Participants will learn from readings, presentations, videos, individual and small group activities and a practice project. This course runs 12 weeks and will be delivered using the CourseSites online course system. The course is asynchronous; but occasionally you may connect with another participant by phone to complete an assignment. Course activities require 4 hours of work per week. The due date each week is Saturday, but please try to complete assignments early each week to engage fully in discussions. We expect you to contribute to online conversations regularly; make your contributions concise and easy to understand; promote learning by sharing your own experiences; suggest new perspectives; pose provoking questions; provide constructive feedback to others; politely raise alternative viewpoints. This is a non-credit course. Participation will be assigned outstanding, satisfactory or unsatisfactory as a grade for effort. Cornell University certificates of successful completion of the course will be issued to participants receiving an outstanding or satisfactory grade, and who submitted assignments by the dates due in at least 10 out of 12 weeks. Course fee: \$150.

EECapacity

This course is offered by the Cornell University Civic Ecology Lab, North American Association for Environmental Education, and Environmental Education Exchange through EECapacity, the EPA-funded national environmental education training program (PI: Marianne Krasny). This new course is offered for the first time and is based on the EPA Professional Development Needs Study, NAAEE Guidelines for Excellence, and the wealth of innovative EE practice emerging in cities across the US.

Instructor

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Important dates

7/5	Application begins
8/31	Application deadline
9/4	Acceptance notification
9/10	Course begins
12/2	Course ends

Syllabus

Due dates each week are **Saturdays**. But please try to complete assignments in the beginning of each week to allow time for online discussions. Assignments will be reviewed or graded by course facilitators usually on Sundays. This syllabus is a living document, and the latest version will always be available in the Course Intro folder on the course website.

Theme	Activities
1. Intro (9/10-9/16)	<ul style="list-style-type: none"> • Watch introduction videos • Introduce yourself and welcome other participants
2. Practical Theory (9/17-9/23)	<ul style="list-style-type: none"> • Build an eeEcology Map reflecting practical theory of your own EE program • Call other course participants to discuss your eeEcology Map • Submit and describe your eeEcology Map, and comment on other participants' submissions
3. Activities and outcomes (9/24-9/30)	<ul style="list-style-type: none"> • Read two articles that discuss the relationship between EE activities and outcomes • Submit reflections and comments • Explore the course library • Watch an optional video
4. Measurable outcomes (10/1-10/7)	<ul style="list-style-type: none"> • Review EE outcomes from eeEcology Maps • Read about criteria of indicators • Share an existing measuring/evaluation tool you have used in your EE program • Brainstorm your future practical/final project
5. Terminology (10/8-10/14)	<ul style="list-style-type: none"> • Watch Tania's video on measuring program outcomes • Review any evaluation concepts relevant to your evaluation projects • Post what you learned, ask questions; post two comments
6. Individual outcomes (10/15-10/21)	<ul style="list-style-type: none"> • Review instruments that measure individual outcomes such as knowledge, skills, attitudes, behavior, behavioral intention, sense of place, and connectedness to nature • Submit reflections and comments
7. Community outcomes (10/22-10/28)	<ul style="list-style-type: none"> • Review measures of community indicators: sense of community, and social capital • Review theory: Likert scale, Cronbach's alpha, t-test • Contribute to the discussion
8. Ecosystem outcomes (10/29-11/4)	<ul style="list-style-type: none"> • Review EE outcomes related to ecosystems: biodiversity, ecosystem health, ecosystem services • Review ideas about measuring ecosystem outcomes • Contribute to the discussion
9. Pilot project (11/5-11/11)	<ul style="list-style-type: none"> • Develop your own EE outcomes instrument for your EE program
10. Pilot project (11/12-11/18)	<ul style="list-style-type: none"> • Test and/or implement your measuring instrument • Contact the course instructor with any questions
11. Pilot project (11/19-11/25)	<ul style="list-style-type: none"> • Analyze and interpret the results of your tool testing or implementation • Submit results of your project (1-page document) • Review other submitted instruments and post feedback
12. Wrap-up (11/26-12/2)	<ul style="list-style-type: none"> • Reflect upon learning and next steps

Selected Readings

- CONPSYCHMeasures: Measurement tools for environmental practitioners.
<http://www.conpsychmeasures.com/CONPSYCHMeasures/index.html>
- DeVellis, R.F. (2003). *Scale development: theory and applications* (2nd ed.). Thousand Oaks: Sage Publications.
- NOAA. (2004). *Designing evaluation for education projects*: NOAA Office of Education and Sustainable Development.
- Stokking, K., van Aert, L., Meijberg, W., & Kaskens, A. (1999). *Evaluating environmental education*. Gland, Switzerland: IUCN.
- Thomson, G., Hoffman, J., & Staniforth, S. (2005). Measuring the success of environmental education programs (pp. 72): Canadian Parks and Wilderness Society.