

# Environmental Education Training Program 2012

## Agenda, Objectives, and Suggested Homework & Practicum

**Duration:** March 12<sup>th</sup>-16<sup>th</sup>, 2012

**Daily agenda:** 8:00am-12noon: theory classes; 12:30-5pm: natural history classes

**Approximate number of hours:** 70 total hours

Direct instruction = 45 hours

Homework= 25 hours (optional though highly recommended if pursuing state certification)

CEUs for FUSD teachers: 3.75 (approval pending)

**Number of participants:** 20

**Cost/participant:** regular cost = \$500

**Special 2012 rate = \$200; FUSD teachers attend FREE)**

**Location:** Willow Bend Environmental Education Center and various field sites

**Pre-program Homework:** (to be completed by first LD) read *Tblisi Declaration Summary*, *Belgrade Charter*, and *The Concept of EE* by William Stapp; complete EE Timeline activity

### **Learning Day #1:**

#### **Theory:**

- “Foundations of EE: from Tblisi to Today”: introduces the history of EE in America, definitions of EE, the primary fields of EE today, how science relates to cultural beliefs, and how personal environmental ethics relates to professional standards of EE.

#### **Ecoliteracy:**

- Food and Fossil Fuels: Through this timely and provocative program, explore the often *unexplored* world of fossil fuels use in food production
- GMOs and Us: Through a slide show and hands-on activity, audience members will discover the pros and cons of genetic modification of foods and the effects on farmers and the environment
- Field experience: field trip to New Frontiers, local natural grocery store

#### **Participants will:**

- question why we as a society believe what we believe in science and how that relates to the job of an environmental educator
- discuss the various definitions of EE and create a personal and class definition
- be introduced to over 100 years of legislation, policies, leaders, movements, etc. in EE, what we are working on today, and where it is headed for tomorrow
- examine the spectrum of environmental ethics, looking at past foundational EE documents, and questioning personal ethics for how we individually choose to teach, how this works with the ethics of those around us, and what our goal is for the future
- learn more about large-scale and small-scale food systems
- have a basic understanding of the issues surrounding the genetic modification of food
- take part in activities that address the needs of students at various developmental stages and how they can be adapted to meet others

**Homework:** read Beyond Ecophobia by David Sobel

## **Learning Day #2:**

### **Theory:**

- “Human Development and EE: from pedagogy to andragogy”: based on education theories from Piaget, Vygotsky, Gardner, and more, participants will better understand the developmental stages of children, from early childhood through adulthood, and how EE fits into this framework

### **Ecoliteracy:**

- Rock Talk and Downtown Flagstaff Geology: Learn the basics of geology and discover the history of Flagstaff through the stones in its historic buildings
- Erupting Earth: Understand the 2 ways volcanoes form, the 4 different types of volcanoes, and how they affected the northern AZ geography
- Field experience: Take a tour of local stone buildings, starting at Heritage Square

### **Participants will:**

- understand how physical, socio-emotional, and cognitive development affects learning throughout human development and the role EE plays at each stage
- be introduced to leaders in the field of human development
- understand how learning styles and multiple intelligences can be addressed at all developmental stages and in various settings
- discover how their own learning styles and multiple intelligences affect their teaching styles and subsequently their students’ learning
- better understand basic geology and volcanology and how local natural history has affected human culture
- take part in activities that address the needs of students at various developmental stages and how they can be adapted to meet others

**Homework:** read selected essays from The Skin that We Speak

## **Learning Day #3:**

### **Theory:**

- “Multicultural Environmental Education”: explores the cultural lenses that influence student and instructor experiences in learning; focuses on gender, language, race/ethnicity, and socio-economics as cultural identifiers

### **Ecoliteracy:**

- Living within your Climate: from Pueblo times to modern times: Learn more about the history of sustainability and human habitats in Flagstaff with a case-study look at Wupatki and Walnut Canyon National Monuments and Willow Bend Environmental Education Center;
- Field experience: take a tour of Willow Bend and visit Walnut Canyon

### **Participants will:**

- be introduced to the concept of cultural lenses and the need for introspection to increase awareness
- understand the concept of the dominant cannon in education, how it is perpetuated, and the levels of incorporation
- examine 4 cultural lenses: race/ethnicity, social class, gender, and language
- examine sustainable building from Pueblo times to modern times; visit Walnut Canyon for field experience of this subject
- take part in activities that address the needs of students at various developmental stages and how they can be adapted to meet others

**Homework:** choose a selection from a school textbook, examining it from a multicultural education perspective

## **Learning Day #4:**

### **Theory:**

- “Environmental Education and Public School System”: learn more about the history of public school education in America, how environmental education fits within the existing framework, and discover reform models as alternatives

### **Ecoliteracy:**

- Water Quality: Learn the basics of water quality testing, including pH and dissolved oxygen, while understanding our community’s needs and how to meet them with water treatment
- Groundwater in Flagstaff: This program uses a groundwater model to help the audience visualize and understand where much of Flagstaff water comes from and how our community uses it; field experience: same as Water Quality
- Field experience: put knowledge into practice through macro invertebrate and chemical testing at the Rio de Flag ponds.

### **Participants will:**

- examine the roots of American public schools
- discuss the many tasks the public schools have been assigned over time, from social equalizer to educating for national security
- have a better understanding of current in-the-media education topics such as teacher unions, charter schools, standards and testing, and more
- discuss if, where, and how EE fits into the current state of public school education
- be introduced to water quality, including various testing methods, the chemistry that governs them, and personal roles in local water issues
- be introduced to groundwater across AZ, including permeability, porosity, and the Project WET model
- take part in activities that address the needs of students at various developmental stages and how they can be adapted to meet others

**Homework:** evaluate an existing lesson plan against the NAAEE guidelines and align it to the AZ State Standards

## **Learning Day #5:**

### **Theory:**

- “Curriculum Development and EE Resources: Don’t reinvent the wheel!”: introduces participants to the North American Association for Environmental Education guidelines for success in curriculum and professional development; participants will also look at the AAEE resources database, Project WET, Project Learning Tree, etc. as established curriculum resources

### **Ecoliteracy:**

- Alien Plant Invaders: Learn the history of invasive plants in Coconino County, why land managers are concerned about this “growing” problem, and how each community members can help
- Fire Ecology: Are forest fires always a bad thing? We’ll take a look at the role of fire in our ponderosa pine ecosystem and how land managers use fire to maintain and create wildlife habitat
- Field experience: take a field trip to Taylor Woods to see restoration in action

### **Participants will:**

- learn how to develop an EE lesson plan and incorporate the theory learning from prior sessions into this planning, from child development to cultural lenses
- discuss how to adapt existing lesson plans and personalize them to fit any educational setting and teaching style so as not to reinvent the wheel

- learn how properly research and vet sources to ensure scientific credibility
- work in small groups to brainstorm ideas for various EE topics, audience ages, cultural perspectives, and more
- understand the fire dependency of ponderosa pine ecosystems and the effects of fire suppression on their health
- understand the current issues affecting land managers including forest thinning practices, water scarcity, and economic considerations
- take part in activities that address the needs of students at various developmental stages and how they can be adapted to meet others

**Homework:** create a unique EE lesson plan

**About the Instructor:**

Sapna Sopori is the Director of Willow Bend Environmental Education Center and creator/owner of the Awareness Together Program (the theory portion of the EETP). She has taught in various education centers across America for the past 11 years, including the Cuyahoga Valley Environmental Education Center, Desert Botanical Gardens, and the Aspen Center for Environmental Studies, and has been with Willow Bend since 2005. She is the current president of the Arizona Association for Environmental Education and holds a B.S. in Ecology and Evolutionary Biology from the University of Arizona and an M.A. in Environmental Science Education from Prescott College.