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## Standards of Best Practices Environmental Education & Interpretation Professionals

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# **EDUCATION ABOUT** **THE ENVIRONMENT**

## Standards of Best Practices Environmental Education & Interpretation Professionals

May, 2007



## **Standards of Best Practices for Nevada Environmental Education & Interpretation Professionals**

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*Standards of Best Practices for Nevada Environmental Education & Interpretation (NEE&I) Professionals* was developed in coordination with the Nevada State Certification Program for Environmental Education & Interpretation.

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*Standards of Best Practices for NEE&I Professionals* is adapted from the *Guidelines for the Preparation and Professional Development of Environmental Educators* published by the North American Association for Environmental Education in 2000 and 2004.

## Introduction

This document provides guidelines about the knowledge and skills needed to provide effective Environmental Education and Interpretation (EE&I) experiences in the state of Nevada. Effective experiences not only further the mission of the organization but also inspire understanding, appreciation, and stewardship of Southern Nevada's environment.

*Standards of Best Practices for Nevada Environmental Education & Interpretation (NEE&I) Professionals* is a guide for providers working at public lands, nature centers, museums, zoos, aquaria, schools, and all nature and heritage-rich places. It is designed to help NEE&I providers develop and implement the highest quality experiences for all possible audiences. It is a tool for NEE&I providers to use as they develop new experiences, deliver programs, or evaluate the effectiveness of the experience. Because EE&I experiences come in many forms, not every part of this document will apply to every EE&I experience.

Best Practices are best understood in the context of an organizational hierarchy. For the purposes of this document, the categories of this hierarchy are:

**Theme**  
    **→ Strands**  
        **→ Best Practices**

*Standards of Best Practices for NEE&I Professionals* is organized into five Themes:

- ◆ Environmental Literacy
- ◆ Foundations of EE&I
- ◆ Responsibilities of an EE&I Professional
- ◆ Planning, Implementing, and Fostering Learning
- ◆ Learner Assessment

## ◆ Theme: Environmental Literacy

### Overview

Nevada EE&I Professionals should be environmentally literate. This means having the ability to question, investigate, and analyze; knowledge of environmental processes and human systems; an understanding of environmental issues; and the ability and motivation to practice environmental decision-making.

#### ❖ **Strand: How We Learn**

Learning and instruction are closely linked. NEE&I Professionals are competent in effective ways of gaining and applying knowledge.

##### **Best Practices:**

- ☑ Use appropriate questioning and analysis skills to gain knowledge.
- ☑ Design and carry out investigations, using appropriate tools to gather, analyze, and interpret data.
- ☑ Understand what science is, what science is not, and how this applies to the practice of EE&I.

#### ❖ **Strand: Ecological Systems, Social Systems, and Their Influences**

NEE&I Professionals synthesize knowledge across disciplines, especially in the natural and social sciences, to understand the processes and systems that comprise the environment.

##### **Best Practices**

- ☑ Understand the interrelationships of human societies and ecosystems.
- ☑ Understand that these interrelationships happen on different scales.

#### ❖ **Strand: Understanding and Addressing Environmental Issues**

NEE&I Professionals have the abilities to learn about, evaluate, and act on environmental issues.

##### **Best Practices**

- ☑ Address environmental issues using questioning skills, analysis skills, and content knowledge. (Environmental issues are those that are caused by anthropogenic effects on the natural environment.)
- ☑ Identify and evaluate alternate solutions and courses of action, using creativity, flexibility, and openness to other viewpoints.
- ☑ Identify and investigate environmental issues on different scales, and relate to place.
- ☑ Understand of environmental justice “do no harm” philosophy and how it applies to the equitable application of laws and benefits across socio-economic boundaries.

**❖ Strand: Personal and Civic Responsibility**

Environmental literacy is activated by individual commitment.

**Best Practices**

- ☑ Recognize that personal actions can have broad environmental consequences.
- ☑ Understand the role and influence of political institutions and the media.
- ☑ Analyze shared and culturally conflicting values.
- ☑ Understand EE&I's focus on environmental literacy and citizenship and how EE&I provides opportunities for learners to develop critical thinking and action skills.

**◆ Theme: Foundations of EE&I****Overview**

Having knowledge of the goals, theory, practice, and history of the fields of EE&I provides a solid foundation for developing a philosophy for individual practice.

**❖ Strand: Different Methods of Education about the Environment**

NEE&I Professionals understand EE&I as distinct fields and know their defining characteristics and goals.

**Best Practices**

- ☑ Define environmental education, interpretation, and other terms and practices used to describe education about the environment.
- ☑ Understand the broad outlook that EE&I takes of the "environment," incorporating concepts such as systems, interdependence, and interactions among humans, other living organisms, the physical environment, and the built or designed environment.
- ☑ Understand the interdisciplinary nature of EE&I and how each practice draws on and integrates knowledge across academic disciplines.

**❖ Strand: Goals, Theory, and Practice of EE&I**

Knowledge of the foundations, philosophies, and varied practices of EE&I will allow NEE&I Professionals to develop a philosophy for individual practice.

**Best Practices**

- ☑ Identify the philosophy, conceptual foundations, and goals of EE&I by examining founding documents of the field.
- ☑ Identify major components of environmental literacy and the relationship to the practices of EE&I.
- ☑ Understand the influences that have contributed to the evolution of these concepts (e.g., work done by C. Roth, H. Hungerford, R. Ben Beyton, R. Wilke, S. Ham, E. Mills, F. Tilden, and others).



- ☑ Describe a variety of national, regional, state and local EE&I programs and support services, including funding sources and resources.
- ☑ Understand local efforts to link and enhance programs through partnerships and other collaborations.

❖ **Strand: Historical and Current Perspectives of EE&I**

The fields of EE&I have changed over time and continue to change.

**Best Practices**

- ☑ Understand the educational movements, including place-based education, nature study, outdoor education, conservation education, experiential education, and other programs, that have contributed to the development of EE&I and how they relate to EE&I.
- ☑ Understand how different entities, including the United Nations, schools, state and federal agencies, zoos, museums, and other professional organizations have influenced – or might influence – the manner and form of EE&I.
- ☑ Describe specific findings from EE&I research and discuss their effect on how EE&I is perceived, defined, or practiced.
- ☑ Understand current and emerging issues in the fields of EE&I.

◆ **Theme: Responsibilities of an EE&I Professional**

**Overview**

Practitioners of EE&I should maintain consistent and high standards for instruction and professional conduct. This includes exemplary instructional practice that does not advocate a particular point of view, and an ethic of lifelong learning.

❖ **Strand: Expectations of an EE&I Professional**

Provide EE&I that is appropriate, constructive, and aligned with the standards of the field.

**Best Practices**

- ☑ Identify ways in which EE&I can be used as a tool for meeting curriculum standards and addressing education reform goals.
- ☑ Understand the role of partnerships among community members, organizations, agencies, businesses, and educational systems.
- ☑ Practice responsible, respectful, and sensitive behavior during instruction.
- ☑ Model the process of inquiry, experiential learning, and the application of environmental investigations in EE&I programming.
- ☑ Make complex issues understandable and establish relativity to the audience.

❖ **Strand: Factual Accuracy and Multiple Points of View**

Provide accurate, balanced, and effective experiences while not promoting a particular view about environmental conditions, issues, or actions.

**Best Practices**

- ☑ Identify deliberate strategies and techniques that encourage participants to explore and discover different perspectives, form their own opinions, and explain their beliefs.
- ☑ Use deliberate techniques for presenting differing viewpoints and theories in a balanced manner.
- ☑ Identify potential sources of bias and conflict.
- ☑ Differentiate among resource materials on the basis of factual accuracy, including primary and secondary sources.
- ☑ Weigh evidence regarding environmental problems based on validity of data (e.g., from scientific societies or reputable journals or reputable websites).

**❖ Strand: Ongoing Learning and Professional Development**

NEE&I participants are aware of the need to be active learners in their professional lives.

**Best Practices**

- ☑ Learn and use research and analytical skills to expand existing knowledge about the environment, related issues, EE&I, and instructional methods.
- ☑ Use research and analytical skills to expand existing knowledge about the environment and EE&I.
- ☑ Build relationships with mentors, advisors, and others who will challenge NEE&I professionals to continually expand and upgrade their knowledge and skills.
- ☑ Reflect on and learn from personal practice as an EE&I professional, both individually and with other professionals and colleagues.
- ☑ Seek out opportunities to learn essential content and skills in real-world environmental settings or contexts, especially within local ecosystems.

**◆ Theme: Planning, Implementing, and Fostering Learning****Overview**

NEE&I Professionals must combine the fundamentals of effective communication techniques with the unique features of EE&I to design and implement effective learner-centered, experiential learning experiences.

**❖ Strand: Knowledge of Audience**

Tailor instructional approaches to meet the needs of different learners.

**Best Practices**

- ☑ Identify, select, adapt, and model materials and experiences for program options that are developmentally appropriate and take learning styles into consideration for a designated age or level of knowledge.

- ☒ Identify and understand possible diverse audiences and their needs, including: moral, cognitive, social and physical, perspectives, and appropriate learner outcomes.
- ☒ Recognize and acknowledge the validity of varying cultural perspectives present in the audience. Tailor instructional approaches to appropriately and respectfully respond to these perspectives and use them as a resource.

❖ **Strand: Planning and Delivery of EE&I Experiences**

Employ a range of methods that are particularly suited to EE&I. This includes planning age-appropriate experiences that meet specific goals, and creating a safe and conducive learning environments both indoors and outside. Be familiar with ways of including EE&I in the local school district curriculum.

**Best Practices**

- ☒ Where appropriate, understand how EE&I experiences meet relevant national, state, and local educational standards for learning performance in specific disciplines. Ability to correlate EE&I experiences with state education standards in a particular discipline or grade level.
- ☒ Demonstrate a concern for audience safety in designing, planning, and implementing instruction, especially experiences that are hands on, or that take place outside the classroom. Attend to the physical layout such that the site is used safely and effectively.

❖ **Strand: Materials, Resources, and Technology**

Access, evaluate, and use a range of materials, resources and technologies.

**Best Practices**

- ☒ Identify and evaluate materials and resources.
- ☒ Identify informal science and heritage institutions, local businesses, service organizations, government agencies, nonprofit organizations, and others that may participate in and support EE&I experiences.
- ☒ Identify, assess, and use a variety of professional development opportunities.
- ☒ Demonstrate use of a variety of tools of the trade for environmental observation and measurement.
- ☒ Demonstrate how to use technologies to analyze and communicate environmental information.

❖ **Strand: Create the Learning Environment**

Foster an environment that is conducive to learning, including enabling the audience to engage in open inquiry and investigation.

**Best Practices**

- ☒ Identify and model ways of presenting the natural world or environmental issues in engaging ways.
- ☒ Select among relevant topics and issues based on audience interests to construct knowledge and foster conceptual understanding.

- ☑ Use a variety of instructional methods and strategies appropriate for the content and context based on learning objectives, learner characteristics, time requirements, involvement of community members, community and agency dynamics and policies, available resources, and the instructional setting.
- ☑ Promote lifelong learning and engage the audience in the idea of taking responsibility for their own learning and expectations for achievement.
- ☑ Apply experiential learning techniques, inquiry-based learning techniques, and other instructional techniques that allow the audience to explore and discover the world around them.
- ☑ Understand that experiences that foster clear and independent thinking are important to the ultimate goal of developing environmentally literate citizens.
- ☑ Use instructional techniques that encourage the audience to ask questions and explore a variety of answers.
- ☑ Take into account audience preconceptions and assumptions while encouraging creativity and openness.
- ☑ Promote cooperative learning as a component of environmental literacy.
- ☑ Modify instructional plans and approaches, when appropriate, to take advantage of unexpected opportunities (e.g. new developments in community issues, recent events or phenomena that are in the news, or breakthroughs in scientific understanding) and audience questions and interests.
- ☑ Work collaboratively with others, adapting instructional approaches as needed to blend or complement instructional styles and to meet shared goals.
- ☑ Make complex issues understandable and establish relativity to audience.

## ◆ Theme: Learner Assessment

### ❖ Strand: Learner Outcomes

Link assessment to learning.

#### Best Practices

- ☑ Link the goals and objectives of the EE&I experience to expected audience outcomes.
- ☑ Use (when appropriate) assessment of learner outcomes to measure if outcomes meet national, state and local standards.
- ☑ Engage the audience in setting their own expectations for the experience. Understand the importance of these abilities in light of EE&I's emphasis on learner-centered education and lifelong learning.

### ❖ Strand: Assessment as Part of the EE&I Experience

Incorporate assessment into EE&I experiences.

### **Best Practices**

- ☒ Make objectives and other expectations clear to the audience at the outset of an EE&I experience.
- ☒ Assess the audience's baseline understandings and skills at the beginning of an EE&I experience.
- ☒ Use a variety of assessments, including open-ended questions, projects, presentations, or other activities appropriate to the EE&I experience.
- ☒ Understand appropriate use of formative and summative assessment tools to specific EE&I activities, projects, or experiences.

### **❖ Strand: Improving EE&I Experiences**

Use instructional experiences and assessments to improve future EE&I activities.

### **Best Practices**

- ☒ Use results of differing kinds of assessment to help modify and improve future programming and activities.