Environmental Education Program Development: Guidelines for Excellence
North American Association for Environmental Education

Please return your comments by June 30, 2021.

INTRODUCTION

*Environmental Education Program Development: Guidelines for Excellence* comprises a set of recommendations for developing and administering high quality environmental education programs. These recommendations provide a tool that can be used to ensure a firm foundation for new programs or demonstrate program value and trigger improvements in existing ones. The overall goal of these guidelines is to facilitate a superior educational process leading to the environmental quality, social equity, and economic prosperity that people desire. This overall goal is shared with the other guidelines produced by the North American Association for Environmental Education’s *National Project for Excellence in Environmental Education*.

The term “program” is used in these guidelines to mean an integrated sequence of planned educational experiences and materials intended to reach a particular set of objectives. Environmental education programs, taken together, are the methods by which an organization’s education goals are accomplished. Programs can be small or large and can range from short-term, one-time events to long-term, community capacity building efforts. Programs can take place virtually or in person. Environmental education programs can be extremely diverse in their settings and in their target audiences. Community-based groups, service organizations, government agencies, residential centers, nature centers, zoos, museums, and youth organizations all may be involved in environmental education program development and implementation. Programs can take place in a variety of environments, including classrooms, laboratories, online, vest pocket parks, school yards, vacant lots, forests, neighborhoods, school courtyards, business districts, nature centers, and community gardens.

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**DID YOU KNOW?**

**DEFINITIONS OF ENVIRONMENTAL EDUCATION, ENVIRONMENTAL LITERACY, AND EDUCATION FOR SUSTAINABLE DEVELOPMENT**

Environmental Education (EE)

... is a process that helps individuals, communities, and organizations learn more about the environment, develop skills to investigate their environment and to make intelligent, informed decisions about how they can help take care of it. It has the power to transform lives and society. It informs and inspires. It motivates action. EE is a key tool in creating healthier and more civically engaged communities. (NAAEE, n.d.)

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An Environmentally Literate Person⁴

…is someone who, both individually and together with others, makes informed decisions concerning the environment; is willing to act on these decisions to improve the well-being of other individuals, societies, and the global environment; and participates in civic life. (Hollweg, et. al. 2011. p. 2-3)

Education for Sustainable Development (ESD)⁵

ESD empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. It is about lifelong learning, and is an integral part of quality education. ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society.


ENVIRONMENTAL EDUCATION AND LEARNING

The goal of environmental education is to develop environmental literacy for all. A continuous process, environmental education is learner-centered, equitable, inclusive, and culturally responsive, providing all participants with opportunities for minds-on, developmentally appropriate experiences and investigations. Environmental education is a lifelong journey, encouraging learners to understand and forge connections with their immediate surroundings. The awareness, knowledge, and skills needed for local understandings provide a basis for moving out into larger systems and broader issues. Simultaneously, this more sophisticated comprehension of interrelationships often leads directly to deeper connections to homes and communities.

Environmental education recognizes the importance of viewing human interconnectedness within the environment, incorporating an examination of human systems (e.g., economic, cultural, social, and political systems) and natural processes and systems. Environmental education fosters skills and habits people can use to understand and act on environmental concerns throughout their lives. It cultivates the ability and willingness to learn from the past, recognize uncertainty, envision alternative scenarios, and adapt to changing conditions.

Environmental education facilitates the development of an active learning community where learners share ideas and expertise, listen, consider, collaborate, and participate in continued inquiry. Ultimately, knowledge, skills, motivations, and habits of mind translate into being a member of the global community that can better address our common problems and create opportunities. With a focus on building learners’ capacity to work individually and cooperatively to improve environmental quality, social equity, and economic prosperity, environmental education supports efforts to address the Sustainable Development Goals.


At the core of the 2030 Agenda for Sustainable Development, adopted by world leaders, are 17 Sustainable Development Goals (SDGs) that call on all countries to mobilize efforts to:

…secure a sustainable, peaceful, prosperous, and equitable life on earth for everyone now and in the future. The goals cover global challenges that are crucial for the survival of humanity. They set environmental limits and set critical thresholds for the use of natural resources. The goals recognize that ending poverty must go hand-in-hand with strategies that build economic development. They address a range of social needs including education, health, social protection, and job opportunities while tackling climate change and environmental protection. The SDGs address key systemic barriers to sustainable development such as inequality, unsustainable consumption patterns, weak institutional capacity and environmental degradation.

Environmental education works towards a sustainable future for all where environmental and social responsibility drive individual and institutional choices.


ESSENTIAL UNDERPINNINGS OF ENVIRONMENTAL EDUCATION
Environmental education builds from a core of key principles that inform its approach to education:

Human Well-Being: Human well-being is inextricably bound with environmental quality. Humans are a part of the natural order. Humans, and the systems they create—societies, political systems, economies, religions, cultures, technologies—impact the total environment and are impacted by the environment. Since humans are a part of nature rather than outside it, they are challenged to recognize the ramifications of their interdependence with Earth systems.

Importance of Where One Lives: Beginning close to home, learners connect with, explore, and understand their immediate surroundings. They appreciate the nature around them wherever they live. The sensitivity, knowledge, and skills needed for this local connection to both the natural and built environment provide a base for moving into larger systems, broader issues, and an expanding understanding of connections and consequences.

Integration and Infusion: Disciplines from the natural sciences, social sciences, and the humanities are interconnected through the environment and environmental issues. Environmental education offers opportunities to integrate disciplinary learning, fostering a deeper understanding of concepts and skills. EE works best when infused across the curriculum, rather than being treated as a separate or isolated experience.

Justice, Equity, Diversity, and Inclusion: Environmental education instruction is welcoming and respectful to all learners and embraces the principles of fairness and justice. EE is designed to employ and engage people with different backgrounds, experiences, abilities, and perspectives through culturally relevant and responsive instruction. EE actively works to create equitable learning opportunities and promotes the dignity and worth of people of all races, ethnicities, religions, genders,
sexual orientations, gender identities, abilities, incomes, language groups, marital statuses, ages, geographic locations, and philosophies.

**Lifelong Learning**: Critical and creative thinking, decision making, communication, and collaborative learning, are emphasized. Development and ongoing use of a broad range of skills and practices are essential for active and meaningful learning, both in school and over a lifetime.

**Roots in the Real World**: Learners develop knowledge and skills through direct experience with their community, the environment, current environmental issues, and society. Investigation, analysis, and problem solving are essential activities and are most effective when relevant to learners’ lives and rooted in their experiences.

**Sustainable Future**: Supporting the United Nations Sustainable Development Goals, learning reflects on the past, examines the present, and is oriented to the future. Learning focuses on environmental, social, and economic responsibility as drivers of individual, collective, and institutional choices.

**Systems and Systems Thinking**: Systems thinking helps make sense of a large and complex world. A system is made up of parts. Each part can be understood separately. The whole, however, is understood only by examining the relationships and interactions among the parts. Earth is a complex system of interacting physical, chemical, and biological processes. Organizations, individual cells, communities of animals and plants, and families can all be understood as systems. And systems can be nested within other systems.

**HOW WERE THESE GUIDELINES DEVELOPED?**
To assure that these **Guidelines for Excellence** reflect a widely shared understanding of environmental education, they were developed by a team of environmental education professionals from a variety of backgrounds and organizational affiliations. This team took on the challenge of turning ideas about quality into tangible recommendations and examples. In addition, drafts of these guidelines were circulated widely to practitioners and scholars in the field (e.g., teachers, educational administrators, community leaders, environmental scientists, and curriculum developers), and their comments were incorporated into successive revisions of the document. As such, hundreds of practitioners have participated in the writing of these guidelines.

**HOW TO USE THESE GUIDELINES**
*Environmental Education Program Development: Guidelines for Excellence* points out six key characteristics of high-quality environmental education programs. For each characteristic, guidelines are listed for program developers or educators to consider. Finally, each guideline is accompanied by several indicators. These indicators are simply clusters of attributes you might look for to help gauge whether the characteristic is embodied in the program you are reviewing or developing. *Environmental Education Program Development: Guidelines for Excellence* can help the educator, administrator, or program developer who is concerned about the quality of environmental education programs. It provides direction while allowing flexibility in shaping content, technique, and other aspects of program delivery. These guidelines offer a way of assessing the relative merit of different programs, a standard to aim for in developing new programs, and a set of ideas about what a well-rounded environmental education program might be like.

It is not reasonable to expect that every environmental education program will follow all the guidelines. For example, a program might not have a structured evaluation plan in place. This does not necessarily mean that the program is fatally flawed. In cases such as this one, *Environmental Education Program Development: Guidelines for Excellence* can point out areas for growth. Similarly, it is likely that specific indicators for one or more of the key characteristics may not apply to a particular program. For instance, planners for a series of evening community forums would likely not have to concern themselves with the
suggestion that … [example indicator to be determined]. Users of these Guidelines will need to determine which key characteristics, guidelines, and indicators are relevant in their situation. No set of guidelines could contain every possible detail of what constitutes a quality program. However, *Environmental Education Program Development: Guidelines for Excellence* provides a foundation on which to build programs that work. As a tool to inform decision-making, these Guidelines can contribute to more effective environmental education.
Environmental Education Program Development: Guidelines for Excellence

Summary

NOTE: Graphic is not fully formatted.

PREPARE

Gather Information & Assess Priorities

PLAN

Design Instruction, Design Program Structure & Delivery, & Develop Evaluation Plan

IMPLEMENT

LEARN, ADJUST, CELEBRATE

Analyze, Adapt, & Share

Deliver Program
Environmental Education Program Development: Guidelines for Excellence

Summary

PREPARE

KEY CHARACTERISTIC #1 Gather Information and Assess Priorities.
Conduct a self-assessment, including how the program supports the organization’s vision, mission, and strategic priorities, addresses environmental, educational, and community needs, produces culturally responsive benefits that address the identified needs, and satisfies marketplace demands. Use existing program evaluation results and, as appropriate, conduct further program assessments in cooperation with stakeholders and other community partners.

1.1 Self-assessment
1.2 Organizational priorities and capacity
1.3 Environmental, educational, and community needs
1.4 Audience needs
1.5 Partnerships

PLAN

KEY CHARACTERISTIC #2 Design Instruction.
Design instruction with well-articulated goals and objectives that contribute to the development of environmental literacy, meet the needs of audience members, and address community concerns and aspirations. Build the program on a foundation of quality instructional materials and well-prepared staff. Purposefully co-design instruction in collaboration with stakeholders and other community partners.

2.1 Goals and objectives
2.2 Instructional materials and techniques
2.3 Instructional staff

KEY CHARACTERISTIC #3 Design Program Structure and Delivery.
Develop a program format and delivery system that supports instructional goals and objectives and meets audience needs. Build program planning on a foundation of thorough preparation, including budget planning, facilities management, and concern for health and safety. Ensure that program strategies create a supportive, safe, culturally relevant, accessible, responsive, and welcoming learning environment. Coordinate instructional delivery in collaboration with stakeholders and other community partners.

3.1 Format and delivery
3.2 Facilities
3.3 Health and safety
3.4 Communication

KEY CHARACTERISTIC #4 Develop an Evaluation Plan.
Develop an evaluation scope, including guiding questions for each phase of the program development cycle. Design data collection methods, documenting relevant program inputs, outputs, outcomes, and impacts. Build ways to monitor and use evaluation results throughout implementation.

4.1 Evaluation plan
4.2 Evaluation strategies, techniques, and tools
4.3 Pilot testing
IMPLEMENT

KEY CHARACTERISTIC #5 Deliver Program.
Deliver a high quality, effective educational experience that meets stated goals and objectives, including the development of environmental literacy. Provide a supportive, safe, culturally relevant, accessible, responsive, and welcoming learning environment.

5.1 Instructional content
5.2 Learning climate
5.3 Flexible and responsive instruction
5.4 Inclusion and collaborations
5.5 Instructional methods

LEARN, ADJUST, CELEBRATE

KEY CHARACTERISTIC #6 Analyze, Adapt, and Share.
Take time to document, analyze, learn, and reflect. Examine evaluation results and consider what they mean in terms of how the program can be improved and whether it should be continued. If the program is on-going, adjust the program, as necessary, and plan for its long-term sustainability. Celebrate successes, including partnerships, and share the results so others can learn from program efforts.

6.1 Evaluation results
6.2 Plan for long-term sustainability
6.3 Share learnings

Potential Informational Boxes for the Introduction
DID YOU KNOW? Some Useful Definitions [COMMUNICATIONS, EXPERIENTIAL, NONFORMAL, FORMAL, INFORMAL OR FREE CHOICE EDUCATION, INTERPRETATION, SOCIAL MARKETING]
DID YOU KNOW? Some Useful Definitions – CULTURALLY RELEVANT, ENVIRONMENTAL JUSTICE, DIVERSITY, EQUITY, INCLUSION

About Informational Boxes
Boxes help illustrate the guidelines, tell the stories of programs, and provide additional information, including definitions, explanations, references, and links to websites. There are three types of informational boxes:

DID YOU KNOW? – Background information, definitions, and explanations.
RESOURCES YOU CAN USE! Websites, publications, and tips you can use.
GUIDELINES IN PRACTICE Stories from the field (e.g., short case studies).
PREPARE

KEY CHARACTERISTIC #1 Gather Information and Assess Priorities.
Conduct a self-assessment, including how the program supports the organization’s vision, mission, and strategic priorities, addresses environmental, educational, and community needs, produces culturally responsive benefits that address the identified needs, and satisfies marketplace demands. Use existing program evaluation results and, as appropriate, conduct further program assessments in cooperation with stakeholders and other community partners.

1.1 Self-assessment – Conduct a thorough and honest self-assessment of the status of existing programs, staff, organizational support, and partnerships. Consider current program strengths, opportunities, aspirations, and results. Confirm self-assessment findings with existing evaluation results and input from staff, partners, audience members, community members, and other stakeholders. Verify market demands.

1.2 Organizational priorities and capacity – Establish how the program supports the organization’s vision, mission, and strategic priorities and how it fills an identified need within the organization. Verify access to funding, skills, and other resources needed over the life of the program.

1.3 Environmental, educational, and community needs – Investigate environmental, educational, and community needs. Identify priority goals related to environmental quality, social equity, and economic prosperity, community interests, assets, and aspirations, and justice, equity, diversity, and inclusion. Determine relevant education policies and priorities and any regulatory requirements.

1.4 Audience needs – Conduct an analysis of the target audience(s), including audience interests, ways of knowing, physical abilities, and developmental level. Determine current levels of audience awareness, knowledge, skills, motivation, and attitudes related to the program focus. Identify additional information needed to create inclusive learning environments that welcome different language groups, cultures, ages, abilities, sexual orientations, gender identities, ethnic groups, races, developmental levels, classes, and social groups.

1.5 Partnerships – Review existing partnerships and explore the development of new opportunities, especially those that are collaborative, center on community interests and shared priorities, and promote equity and inclusion.

Potential Informational Boxes:
DID YOU KNOW? Strengths, Opportunities, Aspirations, Results (SOAR) Analysis [include SWAT, ADAR]
DID YOU KNOW? Defining Front-end Evaluation
RESOURCES YOU CAN USE! Cultural Responsiveness Self-Evaluation Tool [OSU]
RESOURCES YOU CAN USE! Community Engagement: Guidelines for Excellence
RESOURCES YOU CAN USE! eeLEARN Research and Evaluation Module
PLAN

KEY CHARACTERISTIC #2 Design Instruction.
Design instruction with well-articulated goals and objectives that contribute to the development of environmental literacy, meet the needs of audience members, and address community concerns and aspirations. Build the program on a foundation of quality instructional materials and well-prepared staff. Purposefully co-design instruction in collaboration with stakeholders and other community partners.

2.1 Goals and objectives – Articulate specific, measurable goals and objectives that foster the development of environmental literacy, address applicable Sustainable Development Goals, support academic objectives, enhance learning opportunities for people with different backgrounds, experiences, abilities, and perspectives, and address community concerns and aspirations. Use justice, equity, diversity, and inclusion as a lens when writing goals and objectives.

2.2 Instructional materials and techniques – Employ high quality instructional materials and techniques designed to meet environmental literacy learning goals and objectives. Instruction is responsive and accessible to linguistic, physical ability, neurological (e.g., Alzheimer, multiple sclerosis), hearing impairment, visual impairment, developmental (e.g., Autism spectrum, ADHD), and age differences.

2.3 Instructional staff – Ensure the participation of high quality, prepared staff and volunteers. Staff and volunteers know how to create a supportive learning environment that meets the needs of all learners. Use justice, equity, diversity, and inclusion as a lens when recruiting, selecting, and preparing staff.

Potential Informational Boxes:
DID YOU KNOW? Writing SMART Goals and Objectives
RESOURCES YOU CAN USE! EE Materials: Guidelines for Excellence, Professional Development: Guidelines for Excellence
DID YOU KNOW? Universal Design for Learning
RESOURCES YOU CAN USE! EE Certification

KEY CHARACTERISTIC #3 Design Program Structure and Delivery.
Develop a program format and delivery system that supports instructional goals and objectives and meets audience needs. Build program planning on a foundation of thorough preparation, including budget planning, facilities management, and concern for health and safety. Ensure that program strategies create a supportive, safe, culturally relevant, accessible, responsive, and welcoming learning environment. Coordinate instructional delivery in collaboration with stakeholders and other community partners.

3.1 Format and delivery – Design a program format and delivery system that successfully reaches the target audience(s) and ensures an effective, culturally responsive, inclusive, safe, and accessible learning environment for all participants. Develop a detailed logic model and/or theory of change, work plan and program budget, outlining a timeline of tasks and responsibilities and their associated costs.

3.2 Facilities – Confirm that safe and accessible facilities (such as meeting rooms, outdoor spaces, restrooms, food preparation areas, and computer/Internet access) are available and
Facilities are selected and configured to support the program’s learning goals and objectives, welcoming different races, ethnic groups, cultures, sexual orientations, gender identities, abilities, ages, social groups, classes, language groups, and religious traditions.

3.3 Health and safety – Create a plan that provides for the health and safety of all participants and staff.

3.4 Communication – Develop a promotion, communication, marketing, and dissemination plan to ensure that the program reaches its target audience and achieves its goals and objectives.

Potential Informational Boxes:
DID YOU KNOW? Theory of Change and Logic Models
RESOURCES YOU CAN USE! Best Practices for LGBTQ+ Inclusive Youth Programming [OUT Maine]

KEY CHARACTERISTIC #4 Develop an Evaluation Plan.
Develop an evaluation scope, including guiding questions for each phase of the program development cycle. Design data collection methods, documenting relevant program inputs, outputs, outcomes, and impacts. Build ways to monitor and use evaluation results throughout implementation.

4.1 Evaluation plan – Develop and implement a plan that incorporates evaluation (e.g., formative, process/implementation, outcome, impact evaluation) into key program stages. Determine who will conduct the evaluation (internal or external), the timeline, and how results will be documented. Tie evaluation phases to program goals and objectives and the program logic model or theory of change.

4.2 Evaluation strategies, techniques, and tools – Design effective, culturally responsive, developmentally appropriate evaluation strategies and techniques to measure program success. Key evaluation strategies and tools to specific program stages and evaluation goals.

4.3 Pilot testing – Verify overall program effectiveness by pilot testing educational materials and strategies. Confirm that educational materials and strategies meet program goals and objectives, including environmental literacy goals, are developmentally appropriate, culturally relevant, and linguistically responsive, and accommodate people with special needs, including those with differing physical abilities. Based on pilot test results, revise educational materials and strategies to improve instruction.

Potential Informational Boxes:
DID YOU KNOW? Evaluation (definitions of formative, process/implementation, outcome, and impact evaluation)
RESOURCES YOU CAN USE! Practitioner Guide to Assessing Connection with Nature
RESOURCES YOU CAN USE! Evaluation Standards
RESOURCES YOU CAN USE! eeRESEARCH and eeVAL
IMPLEMENT

KEY CHARACTERISTIC #5 Deliver Program.
Deliver a high quality, effective educational experience that meets stated goals and objectives, including the development of environmental literacy. Provide a supportive, safe, culturally relevant, accessible, responsive, and welcoming learning environment.

5.1 Instructional content – Deliver an instructional program that contributes to the understandings, skills, and dispositions, such as motivation and self-efficacy, associated with environmental literacy. Engage in culturally relevant open inquiry and investigation, especially when considering environmental issues that are controversial and require learners to seriously reflect on their own and others’ perspectives.

5.2 Learning climate – Create a climate in which learners are engaged, intellectually stimulated, and motivated to learn about and explore the environment. Foster an instructional environment, including participant interactions, that is safe, engaging, and conducive to learning.

5.3 Flexible and responsive instruction – Demonstrate flexibility and modify instructional plans and approaches to take advantage of unexpected opportunities, including learner questions. Respond to learners’ interests and ways of knowing, adjust to meet learner needs, and address misunderstandings. Integrate assessment strategies into instruction and use results to improve learning.

5.4 Inclusion and collaboration – Maximize learning by fostering an open, collaborative, inclusive, and equitable learning environment. Tailor instruction to meet the needs of, yet challenge, different learners, including people of different races, ethnic groups, cultures, sexual orientations and gender identities, abilities, ages, social groups, classes, language groups, and religious traditions.

5.5 Instructional methods – Employ a range of interactive and participatory instructional methods and activities to meet instructional objectives, address different ways of knowing, elicit learner thinking, and engage all learners by embracing cultural, linguistic, physical, and developmental differences. Make smooth transitions from one instructional method or activity to another. Work collaboratively with other instructors, adapting instructional approaches as needed to blend or complement instructional styles and to meet shared goals.

Potential Informational Boxes:
DID YOU KNOW? Differentiated Instruction
DID YOU KNOW? Ways of Knowing
DID YOU KNOW? Developmentally Appropriate Practice
DID YOU KNOW? Essential Approaches to EE Instruction
RESOURCES YOU CAN USE! K-12 Environmental Education: Guidelines for Excellence
GUIDELINES IN PRACTICE! Selected blogs from eeBLUE
RESOURCES YOU CAN USE! eeWORKS
LEARN, ADJUST, CELEBRATE

KEY CHARACTERISTIC #6 Analyze, Adapt, and Share.
Take time to document, analyze, learn, and reflect. Examine evaluation results and consider what they mean in terms of how the program can be improved and whether it should be continued. If the program is on-going, adjust the program, as necessary, and plan for its long-term sustainability. Celebrate successes, including partnerships, and share the results so others can learn from program efforts.

6.1 Evaluation results – Analyze and document evaluation results. Monitor and document progress, showing successes and acknowledging areas needing improvement. Use evaluation findings throughout program stages to prompt modifications, ensure accountability and maximize effectiveness. Share evaluation results with staff, partners, stakeholders, and others.

6.2 Plan for long-term sustainability – Adjust plans, as necessary, for the on-going implementation of the program based on evaluation findings and input from collaborators, partners, and others. As appropriate, determine if the program should be continued or discontinued. For continuing programs, make a long-term commitment to program sustainability, including on-going access to funding and other resources, investment in relationship-building with partners, stakeholders, community members, and others, opportunities for professional development for staff and volunteers, and continued implementation of the evaluation plan.

6.3 Share learnings
Celebrate progress, embrace learnings, and share results with program staff, administrators, collaborators and partners, community members, the environmental education community, and other stakeholders. Use opportunities to share learnings to strengthen essential relationships.

Potential Informational Boxes:
GUIDELINES IN PRACTICE: EL Education
RESOURCES YOU CAN USE! eePRO