

**NORTH AMERICAN ASSOCIATION FOR ENVIRONMENTAL
EDUCATION
(NAAEE)**

**STANDARDS FOR THE INITIAL PREPARATION OF
ENVIRONMENTAL EDUCATORS**

**North American Association for Environmental Education
2000 P Street, NW Suite 540
Washington, D.C. 200036
www.naaee.org**

For more information:

**Bora Simmons
National Project for Excellence in Environmental Education
Institute for a Sustainable Environment
University of Oregon
Eugene, OR 97405**

borasimmons@gmail.com

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NAAEE Standards for the Initial Preparation of Environmental Educators

STANDARD 1. Nature of Environmental Education and Environmental Literacy.

Candidates demonstrate knowledge of the evolution, purposes, defining characteristics, and guiding principles of environmental education, as well as the fundamentals of environmental literacy. They understand that environmental education is an evolving field. This knowledge provides a solid foundation on which environmental educators can develop and continue to improve their own practice. [Note: This standard relates to the ability of the candidates to *define* environmental education and the components of environmental literacy. Standard 2 relates to the degree to which the *candidates are themselves* environmentally literate.]

Supporting Explanation

Candidates understand that although environmental education is a relatively new field, first formally defined in the late 1960s, its roots can be traced to nature study, conservation education and outdoor education. These and other prior educational movements shaped the educational and societal purposes of environmental education. In addition, they shaped the infrastructure for environmental education, including national organizations, federal and state environmental education agency programs, state education agency curriculum requirements, college and university programs, and nonformal education programs (e.g., nature centers, zoos, camps, resident outdoor education centers). Candidates understand the importance of the United Nation’s environmental education program in the development of environmental education as a field, starting with conferences in Stockholm (1972), Belgrade (1975), and continuing through Tbilisi (1977), Rio de Janeiro (1992), Thessaloniki (1997), and Johannesburg (2002). Candidates understand that the definition of environmental education has evolved over time and are able to describe the differences and similarities among these definitions. Candidates understand the major guiding principles and philosophical underpinnings of environmental education such as lifelong learning, cultural sensitivity, community-based learning, interdisciplinary teaching, social and environmental justice, and active learning as well as a focus on examining environmental problems and their possible solutions across varying scales (e.g., local to global, present to future). They understand the knowledge and skill components of environmental literacy and that environmental literacy is predicated on the belief that if we educate our citizens so they are capable of making quality decisions, they will do so when the time comes.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹</u>
1.1 Candidates demonstrate an understanding of how environmental education has evolved over time and continues to change.	K	Evidence indicates that: Candidates identify a limited number of educational movements that have contributed to the development of environmental education.	Evidence indicates that: Candidates describe in-depth how selected educational movements have contributed to the development of environmental education.	Evidence indicates that: Candidates analyze and critique the influences multiple educational movements have had on the development of environmental education.

¹ The Target level is considered to be additive and encompasses all knowledge, skills and dispositions included in the Acceptable level.

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹</u>
		<p>Candidates name a limited number of examples of how individuals, governmental agencies, and nongovernmental organizations have influenced the development of environmental education.</p> <p>Candidates identify a limited number of professions and programs that contribute to the field of environmental education.</p>	<p>Candidates describe multiple examples of how individuals, government agencies, and nongovernmental organizations have influenced the development of environmental education.</p> <p>Candidates describe how multiple professions and types of programs contribute to the field of environmental education.</p>	<p>Candidates analyze how individuals, government agencies, and nongovernmental organizations have influenced environmental education policy, research, theory, and programming and provide specific examples to support the analysis.</p> <p>Candidates analyze and compare the individual and collective contributions a wide range of professions and programs have made to the field of environmental education.</p>
<p>1.2 Candidates demonstrate an understanding of the defining characteristics and guiding principles of environmental education.</p>	<p>K</p>	<p>Evidence indicates that:</p> <p>Candidates list a limited number of established goals and objectives of environmental education.</p> <p>Candidates identify a limited number of the widely recognized guiding principles of environmental education.</p>	<p>Evidence indicates that:</p> <p>Candidates describe in-depth established goals and objectives of environmental education.</p> <p>Candidates describe major guiding principles of environmental education, including the importance of cultural sensitivity, social and environmental justice, community-based learning, and interdisciplinary teaching.</p>	<p>Evidence indicates that:</p> <p>Candidates analyze established environmental education goals and objectives, and use analysis results to explain how they can be integrated into comprehensive, interdisciplinary programs.</p> <p>Candidates analyze how major guiding principles of environmental education, including cultural sensitivity, social and environmental justice, community-based learning, interdisciplinary teaching, lifelong learning, active learning, and attention to scales (e.g., temporal, geographic) are consistent with environmental education theory, and use analysis results to critique existing environmental education programs.</p>

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹</u>
1.3 Candidates demonstrate an understanding of the components of environmental literacy	K	Evidence indicates that: Candidates identify a limited number of components of environmental literacy.	Evidence indicates that: Candidates describe in-depth the major components of environmental literacy.	Evidence indicates that: Candidates analyze the relationships among the major components of environmental literacy and use analysis results to articulate specific examples of how environmental literacy components can be integrated into comprehensive, interdisciplinary environmental education programs.

STANDARD 2. Environmental Literacy of Candidates. Candidates demonstrate the knowledge, skills, and dispositions associated with environmental literacy. They use technology as a tool for collecting, analyzing and communicating information about the environment. [Note: Standard 2 relates to the degree to which the *candidates are themselves* environmentally literate. Standard 1 relates to the ability of the candidates to *define* environmental education and *define* the components of environmental literacy.]

Supporting Explanation

Candidates are environmentally literate. They understand the major concepts and principles of Earth as a physical system, the living environment, and human social systems (e.g., cultural, economic, political systems). They understand and think in terms of systems bound together. Candidates have developed a sophisticated set of inquiry and investigation skills that allow them to solve novel environmental problems and determine the best set of actions, as well as to become thoughtful, skillful and active citizens in a democracy. Candidates are not only capable of taking individual action, but of making well-informed public policy decisions collectively. As environmentally literate citizens, candidates recognize that individuals are asked to make choices on complex issues that affect their own lives, the lives of their families, their communities, and the world beyond their shores. Candidates recognize that environmental decisions are made every time people enter a store, turn on a water faucet, plant a butterfly garden, set the thermostat in their homes or vote. They understand that when public policy is made, these decisions not only impact the economy, jobs, and social equity, but the environment.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target²</u>
2.1 Candidates demonstrate environmental inquiry skills, and use technology as a tool to answer their own questions.	K , S	Evidence indicates that: Candidates demonstrate a limited range of environmental inquiry skills.	Evidence indicates that: Candidates describe the processes, assumptions, and appropriate uses of multiple methods of environmental inquiry required for environmental literacy. Candidates apply environmental inquiry skills to their own questions (i.e., observing, asking questions, designing studies, collecting and organizing data, analyzing and interpreting data, and drawing conclusions). They use technology as a tool for information collection, analysis and communication.	Evidence indicates that: Candidates analyze thoroughly the processes, assumptions and uses of a broad range of environmental inquiry methods and describe how each contributes to environmental literacy. Candidates select inquiry methods that are appropriate for different kinds of environmental conditions or questions and engage in active learning through environmental inquiry, using skills such as observing, asking questions, designing studies, collecting and organizing data, analyzing and interpreting data, and drawing conclusions. They use technology as a tool for information collection, analysis and communication, and transfer the knowledge and skills gained through their environmental inquiries to novel situations.
2.2 Candidates demonstrate an understanding of the processes and systems that comprise the environment, including Earth as a physical system, the living environment, and	K	Evidence indicates that: Candidates demonstrate limited knowledge of major concepts and principles related to Earth as a physical system, the living environment, and human social systems and influences.	Evidence indicates that: Candidates demonstrate in-depth knowledge of Earth as a physical system, including processes that shape the Earth; changes of matter; and energy and its transformations.	Evidence indicates that: Candidates demonstrate in-depth knowledge of Earth as a physical system, including processes that shape the Earth; changes of matter; and energy and its transformations, and describe how Earth's

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<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target²</u>
human social systems and influences.			<p>Candidates demonstrate in-depth knowledge of living systems including organisms, populations, and communities; heredity and evolution; systems and connections; and flow of matter and energy.</p> <p>Candidates demonstrate in-depth knowledge of human social, cultural, political, and economic systems. They describe the interface of environment and society including; uses of land; ecosystem alteration; energy and resource consumption.</p>	<p>physical systems relate to one another.</p> <p>Candidates demonstrate in-depth knowledge of living systems including organisms, populations, and communities; heredity and evolution; systems and connections; and flow of matter and energy, and describe how these living systems relate to one another.</p> <p>Candidates demonstrate in-depth knowledge of the interface of environment and society including; consumerism; uses of land; ecosystem alteration; energy and resource consumption; and human population growth. They analyze and explain the roles that social, economic, political and cultural systems play in issues such as resource depletion, environmental degradation and sustainability.</p>
2.3 Candidates identify, select and investigate environmental issues and use technology as a tool when conducting these investigations.	K, S	<p>Evidence indicates that:</p> <p>Candidates identify a limited number of problems and issues related to the environment.</p> <p>Candidates apply environmental issue investigation skills to discrete environmental problems and/or issues, and use technology as a tool for information collection, analysis and communication on a limited basis.</p>	<p>Evidence indicates that:</p> <p>Candidates describe a range of socially important environmental problems and issues.</p> <p>Candidates apply environmental issue investigation skills to selected environmental problems and issues, and use technology as a tool for information collection, analysis and communication. Candidates include considerations of risks,</p>	<p>Evidence indicates that:</p> <p>Candidates describe in-depth a wide range of socially important environmental problems and issues at the local, regional and global levels.</p> <p>Candidates conduct in-depth environmental issue investigations across a wide range of environmental problems and issues, and use technology as a tool for information collection, analysis and communication. Candidates include</p>

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target²</u>
			costs, and benefits of alternative solutions in their analyses. They relate analysis results to their own beliefs, values and goals.	considerations of risks, costs, and benefits of alternative solutions in their analyses. They relate analysis results to their own beliefs, values and goals. They transfer the skills and knowledge gained through their previous analyses of environmental problems and issues to novel situations.
2.4 Candidates demonstrate an understanding of the importance of exercising the rights and responsibilities of environmental citizenship.	K, D	<p>Evidence indicates that:</p> <p>Candidates identify a limited number of conflicts between individual rights and other societal interests related to the environment, and describe few instances where individuals put civic obligations before their personal interests or desires.</p> <p>Candidates identify a limited number of examples of where they are able to help maintain environmental quality and resolve problems and issues.</p>	<p>Evidence indicates that:</p> <p>Candidates describe conflicts between individual rights and other societal interests related to the environment, and explain, in-depth, at least one example where individuals put civic obligations before their personal interests or desires.</p> <p>Candidates describe the extent to which they, individually and collectively, are able to help maintain environmental quality and resolve problems and issues.</p>	<p>Evidence indicates that:</p> <p>Candidates analyze a wide range of conflicts between individual rights and other societal interests related to the environment, and describe in-depth, examples at the local, regional and global levels where individuals put civic obligations before their personal interests or desires.</p> <p>Candidates analyze examples where they, individually and collectively, are able to help maintain environmental quality and resolve problems and issues at the local, regional, and global levels.</p>
2.5 Candidates identify and evaluate the need for action on specific environmental issues, identify possible action projects, and evaluated potential outcomes of those action projects.	K, S	<p>Evidence indicates that:</p> <p>Candidates identify a limited number of criteria for evaluating the need for action on environmental issues.</p>	<p>Evidence indicates that:</p> <p>Candidates describe and apply multiple criteria when evaluating the need for action on environmental issues. Candidates describe possible action projects and potential outcomes of those action projects.</p>	<p>Evidence indicates that:</p> <p>Candidates thoroughly evaluate the need for action on environmental issues using multiple, research-based criteria. Based on their evaluation, candidates propose a range of actions and evaluate potential outcomes of those actions. They transfer and apply the skills and knowledge</p>

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target²</u>
				gained through their evaluation of the need for action, possible actions, and potential outcomes to novel situations.
2.6 Candidates use the results of their investigations to plan, carry out, and evaluate action projects designed to address selected environmental issues.	K, S, D	Evidence indicates that: Candidates apply, on a limited basis, the results of their analyses, investigations, and evaluations to guide plans for environmental service/action projects.	Evidence indicates that: Candidates apply the results of their analyses, investigations, and evaluation to guide the planning and implementation of selected environmental service/action projects.	Evidence indicates that: Candidates apply the results of analyses, investigations, evaluations, and action plans, to guide the implementation and evaluation of environmental service/action projects. They thoroughly evaluate the results of their environmental service/action projects, including the effects of these projects on the physical environment, other humans, and other living things.

STANDARD 3. Learning Theories and Knowledge of Learners. Candidates demonstrate an understanding of theories of learning and human development, learning processes, and individual differences. They demonstrate respect for their students as unique individuals. Candidates apply this knowledge to create positive, effective and responsive learning environments for all students³ in environmental education.

Supporting Explanation

Candidates understand how children develop physically, emotionally, socially, linguistically, and cognitively from early childhood through late adolescence. They are willing and able to apply this understanding as they design and implement effective, developmentally appropriate lessons. Specifically, they are able to apply this understanding as they create lessons focused on environmental literacy knowledge and skill outcomes. Environmental literacy not only involves the concrete and abstract understandings of environmental processes and systems, but the development of complex inquiry and citizenship engagement skills. Consequently, gauging developmental levels of individual students is particularly important for the environmental education teacher. Additionally, candidates understand that all students can learn if their individual needs are appropriately addressed. They are willing and able to adapt and differentiate

³ “All students” includes students with exceptionalities and of different ethnic/racial, gender, language, sexual orientation, religious, geographic, and socio-economic background.

environmental education instruction to meet the diverse needs of students, providing a range of instructional experiences matched to individual students’ previous knowledge, multiple ways of learning, and background.

Attributes: K = Knowledge S = Skills D= Dispositions

Elements of Standards	Attributes	Unacceptable	Acceptable	Target⁴
3.1 Candidates impact diverse students’ learning by applying theories of learning and development when planning, delivering, and improving environmental education instruction.	K,S	<p>Evidence indicates that:</p> <p>Candidates define few of the physical, linguistic, cognitive, affective, and social development characteristics of students.</p> <p>Candidates can apply a limited number of theories of learning and development when planning or delivering environmental education instruction.</p>	<p>Evidence indicates that:</p> <p>Candidates differentiate major physical, linguistic, cognitive, affective, emotional, and social development characteristics of students from recognized theoretical perspectives and explain how they relate to environmental education practice.</p> <p>Candidates positively impact diverse students’ learning by selecting and applying appropriate theories of learning and development when planning, delivering, and improving student responsive and developmentally appropriate environmental education instruction.</p>	<p>Evidence indicates that:</p> <p>Candidates thoroughly analyze the physical, linguistic, cognitive, affective, social, and other development characteristics of students from a variety of theoretical perspectives and provide specific examples of how each relates to environmental education practice.</p> <p>Candidates positively impact diverse students’ learning by transferring an in-depth knowledge of theories of learning and development to novel contexts when planning, delivering, and improving student responsive and developmentally appropriate environmental education instruction.</p>
3.2 Candidates impact diverse students’ learning by applying an understanding of learning processes when planning, delivering, and improving environmental education.	K,S,D	<p>Evidence indicates that:</p> <p>Candidates define a limited number of the major factors involved in the learning process.</p>	<p>Evidence indicates that:</p> <p>Candidates explain the role of students’ prior knowledge and experiences, ability levels, linguistic diversity, and social interactions in the learning process and describe how they relate to environmental</p>	<p>Evidence indicates that:</p> <p>Candidates thoroughly analyze the relationships among students’ prior knowledge and experiences, ability levels, linguistic diversity, and social interactions in the learning process and explain how they relate</p>

⁴ The Target level is considered to be additive and encompasses all knowledge, skills and dispositions included in the Acceptable level.

⁵ Diversity in these standards refers to differences among groups of people and individuals based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographical area.

<u>Elements of Standards</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁴</u>
		<p>Candidates identify a limited number of ways in which diverse students can demonstrate their environmental learning.</p> <p>Candidates apply a limited number of factors involved in the learning process and/or few ways students can demonstrate learning when planning or delivering environmental education instruction.</p>	<p>education practice.</p> <p>Candidates describe multiple ways in which diverse students can demonstrate their environmental learning (e.g., verbal, written, graphic and artistic, non-verbal and performance).</p> <p>Candidates positively impact diverse students' environmental learning by assessing students' prior knowledge and experiences, ability levels, linguistic diversity, and social interactions, by adjusting instruction accordingly to meet the needs of individual students, and by providing students with multiple ways to demonstrate their learning.</p>	<p>to environmental education practice.</p> <p>Candidates analyze and compare multiple ways in which diverse students can demonstrate their environmental learning and use analysis results to encourage and stimulate further learning.</p> <p>Candidates positively impact diverse students' environmental learning by transferring and applying their knowledge of students' prior knowledge and experiences, ability levels, linguistic diversity, and social interactions, as well as of varied ways for students to demonstrate learning when planning, delivering, and improving environmental education instruction in novel situations.</p>
<p>3.3 Candidates impact diverse students' learning by applying an understanding of ability levels and cultural and linguistic backgrounds when planning, delivering, and improving environmental education instruction.</p>	<p>S,D</p>	<p>Evidence indicates that:</p> <p>Candidates address the relevant ability levels and cultural and linguistic backgrounds of few students when planning and delivering environmental education instruction.</p>	<p>Evidence indicates that:</p> <p>Candidates differentiate learning and adapt environmental education instruction appropriately for all students, including linguistically and culturally diverse students and students with exceptionalities.</p> <p>Candidates impact diverse students' learning by pre-assessing and</p>	<p>Evidence indicates that:</p> <p>Candidates consistently differentiate learning in their classrooms and design culturally responsive and developmentally appropriate environmental education instruction for all students, including linguistically and culturally diverse students and students with exceptionalities.</p> <p>Candidates impact diverse students' learning by thoroughly pre-assessing and</p>

<u>Elements of Standards</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁴</u>
			addressing the ability levels and cultural and linguistic backgrounds of all students when planning and delivering environmental education instruction. They create a positive climate for learning for all students.	addressing the ability levels and cultural and linguistic backgrounds of all of their students when planning, delivering, and improving contextually appropriate environmental education instruction. They create a positive climate for learning for all students.

STANDARD 4. Curriculum: Standards and Integration. Candidates demonstrate an understanding of how the unique features of environmental education can be used in the design and enrichment of standards-based curricula and school programs.

Supporting Explanation

Candidates view environmental education as an integral part of a standards-based curriculum. Environmental education is, at its heart, an integrative undertaking. Candidates teach across disciplines, drawing upon many of the methods and content of natural and social sciences, arts, mathematics, and humanities to help learners fully understand and address complex environmental issues. They understand that environmental educators, by drawing on knowledge and skills that cut across multiple disciplines, can use environmental learnings as a curriculum integrator. They design lessons and units that effectively teach traditional disciplinary understandings while also developing environmental literacy. They know and use relevant national, state, and district discipline-based standards to plan their environmental education curriculum. Similarly, they know the *Excellence in Environmental Education – Guidelines for Learning (PreK-12)* (NAAEE, 2004a) which describe what an environmentally literate student should know and be able to do. They use the *Guidelines for Learning (PreK-12)* as a tool for planning a comprehensive and cohesive curriculum that enhances the development of environmental literacy for all students. Candidates are able to critically analyze the concepts and skills delineated in the *Guidelines for Learning (PreK-12)* and relevant state and district standards to determine areas of commonality. They synthesize and use alignment results to organize and, when appropriate, integrate instruction around environmental contexts and themes in order to increase both environmental literacy and academic achievement.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁶</u>
4.1 Candidates align NAAEE's <i>Guidelines for Learning (PreK-12)</i>⁷ and associated environmental literacy components with national, state, and district content standards.	K,S	Evidence indicates that: Candidates identify the purpose and structure of environmental education guidelines and/or relevant state and district content standards. Candidates align environmental education guidelines with a limited number of the district and state content standards.	Evidence indicates that: Candidates describe the purpose, structure, and substance of environmental education guidelines and relevant state and district content standards. Candidates align environmental education guidelines with relevant state and district content standards.	Evidence indicates that: Candidates analyze and critique the purpose, structure, and substance of environmental education guidelines and associated environmental literacy components, as well as relevant national, state, and district content standards. Candidates align environmental education guidelines and environmental literacy components with national, state, and district content standards.
4.2 Candidates use alignment results to select, adapt, and develop environmental education curricular and instructional materials.	S	Evidence indicates that: Candidates use alignment results on a limited basis to select environmental education curricular and instructional materials.	Evidence indicates that: Candidates apply alignment results consistently when selecting and adapting environmental education curricular and instructional materials.	Evidence indicates that: Candidates thoroughly analyze alignment results and apply this analysis when selecting, adapting, and developing environmental education curricular and instructional materials.
4.3 Candidates seek opportunities to integrate environmental education into standards-based curricula and school programs.	S,D	Evidence indicates that: Candidates integrate environmental education into standards-based curricula and school programs on a limited basis.	Evidence indicates that: Candidates seek opportunities to integrate environmental education into standards-based curricula and school programs. Candidates work with colleagues to enhance identified opportunities to integrate environmental	Evidence indicates that: Candidates integrate environmental education consistently and comprehensively into standards-based curricula and school programs in order to enhance environmental literacy and academic achievement. Candidates seek out and work with a

⁶ The Target level is considered to be additive and encompasses all knowledge, skills and dispositions included in the Acceptable level.

⁷ NAAEE. (2004a). *Excellence in Environmental Education – Guidelines for Learning (Pre K – 12)*. Washington, DC: Author.

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁶</u>
		Candidates organize instruction around environmental contexts and themes on a limited basis.	education into the curriculum. Candidates organize instruction and, when appropriate, integrate instruction, around environmental contexts and themes.	wide range of colleagues to enhance opportunities to integrate environmental education into the curriculum. Candidates thoroughly analyze curricular goals and objectives and use this analysis to organize and, when appropriate, integrate instruction around environmental contexts and themes that enhance environmental literacy and academic achievement.

STANDARD 5. Instructional Planning and Practice. Candidates identify and differentiate among a variety of instructional strategies and tools, including instructional technology that enhance environmental learning. They plan and deliver instruction that promotes environmental literacy and creates stimulating and motivating climates for learning for diverse learners.

Supporting Explanation

Environmental educators produce and draw upon a wide range of instructional materials and resources. They are able to access print and electronic curricula prepared by commercial publishers, government agencies (i.e., federal, state, local), not-for-profit organizations and individuals. They understand that instructional materials developed for use in traditional disciplines (e.g., mathematics, science, social studies) can be adapted for use in environmental education lessons. They know and use the *Environmental Education Materials: Guidelines for Excellence* (NAAEE, 2004c) as a tool for evaluating and selecting appropriate curricular resources. When critically reviewing materials, resources, technologies, and settings for instructional use in environmental education, candidates pay particular attention to content accuracy and fairness, reflection of diversity, developmental appropriateness, instructional soundness, and usability. Candidates understand how out of classroom settings can be used to improve instruction and motivate student learning. They use these settings effectively, increasing students' awareness and appreciation for nature and the built environment and facilitating discovery learning and direct observation. Candidates combine their knowledge of learning theory and environmental education to design and implement instruction that helps all students become environmentally literate. They create a positive climate for learning which meets the needs of diverse students, motivating students to learn individually and cooperatively.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁸</u>
5.1 Candidates describe and critically review a range of instructional materials, resources, technologies, and settings for use in environmental education.	K,S	<p>Evidence indicates that:</p> <p>Candidates identify a limited number of instructional materials, resources, technologies, or settings for use in environmental education.</p> <p>Candidates review environmental education instructional materials, resources, technologies, and settings, employing few, if any, criteria such as content standards and those set forth in NAAEE's <i>Environmental Education Materials: Guidelines for Excellence</i>.⁹</p>	<p>Evidence indicates that:</p> <p>Candidates describe in-depth the characteristics of effective environmental education instructional materials, resources, technologies, and settings.</p> <p>Candidates critically review environmental education instructional materials, resources, technologies, and settings, employing criteria such as state and local content standards and those set forth in NAAEE's <i>Environmental Education Materials: Guidelines for Excellence in Environmental Education – Guidelines for Learning (Pre K – 12)</i>.</p>	<p>Evidence indicates that:</p> <p>Candidates thoroughly analyze the characteristics and appropriate uses of a wide range of effective environmental education instructional materials, resources, technologies, and settings.</p> <p>Candidates thoroughly critique a wide range of environmental education instructional materials, resources, technologies, and settings, employing criteria such as national, state and local content standards, and those set forth in NAAEE's <i>Environmental Education Materials: Guidelines for Excellence in Environmental Education – Guidelines for Learning (Pre K – 12)</i>. Candidates use that analysis to develop comprehensive environmental education lessons and curricula.</p>
5.2 Candidates impact students' learning by selecting and implementing instructional strategies and technologies that meet diverse students' needs and lead to the development of environmental literacy.	K,S,D	<p>Evidence indicates that:</p> <p>Candidates identify and apply a limited number of instructional strategies and tools designed to meet diverse students' needs and/or contribute to the development of environmental literacy.</p>	<p>Evidence indicates that:</p> <p>Candidates impact students' learning by selecting and applying a range of instructional strategies and technologies that meet diverse students' needs and lead to the development of environmental literacy. Candidates demonstrate how the selected instructional strategies</p>	<p>Evidence indicates that:</p> <p>Candidates impact students' learning by thoroughly analyzing the effectiveness of a wide range of instructional strategies and technologies that contribute to diverse students' development of environmental knowledge, skills, affect, and participation. Candidates explain in-</p>

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⁹ NAAEE. (2004c). *Environmental Education Materials: Guidelines for Excellence*. Washington, DC: Author.

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target⁸</u>
			and technologies meet diverse students' needs and how they contribute to the development of environmental literacy. Candidates reflect on the results of their instruction.	depth how these instructional strategies and technologies meet diverse students' needs. Candidates differentiate among varying instructional strategies and technologies and explain how each can be used to teach specific environmental concepts and skills needed for environmental literacy. Candidates use analysis results and apply a wide range of instructional strategies and technologies. Candidates reflect on the results of their instruction.
5.3 Candidates develop technology- rich environmental education instructional plans that address diverse students' needs.	K, S	Evidence indicates that: Candidates develop instructional plans that reflect few of the diverse needs of students, alignments between content standards and environmental education guidelines, instructional strategies and technologies, and effective assessment approaches.	Evidence indicates that: Candidates develop instructional plans that address diverse students' needs, alignments between content standards and environmental education guidelines, instructional strategies and technologies, and effective assessment approaches.	Evidence indicates that: Candidates develop, sequence, and analyze lesson and unit plans that thoroughly address the diverse needs of students, alignments between content standards and environmental education guidelines, instructional strategies and technologies, and effective assessment approaches.
5.4 Candidates impact diverse students' learning by delivering developmentally, culturally and linguistically appropriate and effective environmental education instruction.	S, D	Evidence indicates that: Candidates deliver environmental education instruction that is developmentally appropriate some of the time and do so in a manner that inconsistently stimulates students to learn.	Evidence indicates that: Candidates impact diverse students' learning by delivering culturally and linguistically responsive, developmentally appropriate, and engaging environmental education instruction that stimulates and motivates all students to learn. Candidates reflect on the effectiveness of their instructional strategies.	Evidence indicates that: Candidates impact diverse students' learning by delivering culturally and linguistically responsive, developmentally appropriate, and engaging environmental education instruction on a whole class, cooperative group, and individualized basis, and analyze the results of that instruction on students' environmental literacy, academic achievement, and motivation to learn.

STANDARD 6. Assessment. Candidates possess the knowledge, abilities, and commitment to make assessment integral to curriculum and instruction in environmental education, thereby fostering continuous intellectual, social, emotional, and physical development of each student. Candidates demonstrate an understanding of how assistive technologies can be used in assessment. Candidates use assessment as a means of on-going evaluation of effective teaching and learning.

Supporting Explanation

Candidates understand and value assessment as an indispensable part of successful curriculum development and instruction. They know that if assessment is to be successful, it must be planned and implemented on a continuing basis. They recognize the difference between formative and summative assessment and how each can be used to improve instruction to meet the needs of diverse students. Similarly, candidates are familiar with the benefits and limitations of a range of assessment tools and strategies, including technology-based resources, and know how to match specific tools and strategies to particular situations. They view assessment as an effective component of instructional improvement and use assessment to select developmentally appropriate goals and objectives, teaching strategies, and curricular resources. Candidates possess the knowledge and skills to gather, organize and analyze the data required to assess individual student environmental knowledge and skill achievement. They critically reflect on their own teaching experiences in order to interpret assessment results fully, using these interpretations to adapt and improve future instruction. They use assessment results to show both what students can do and how they can advance, reporting this individual progress to the student and his/her parents. When discussing assessment results, they use appropriate terminology and share examples that illustrate student environmental learning and literacy. Candidates use assessment results as they work with students individually to help them identify the gaps in their environmental knowledge and skills.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹⁰</u>
6.1 Candidates integrate assessment that meets the needs of diverse students into environmental education instruction.	K, S	Evidence indicates that: Candidates incorporate a limited number of formative and/or summative assessments into environmental education instruction. Candidates rely heavily on a limited range of assessment strategies	Evidence indicates that: Candidates integrate formative and summative assessment and environmental education instruction, addressing identified learning goals and objectives. Candidates select, develop, and administer a variety of assessments	Evidence indicates that: Candidates thoroughly integrate formative and summative assessment and environmental education instruction, focusing particular attention on learning goals and objectives related to environmental literacy and academic achievement. Candidates systematically select, develop, and administer a wide range of

¹⁰ The Target level is considered to be additive and encompasses all knowledge, skills and dispositions included in the Acceptable level.

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹⁰</u>
		<p>many of which are created by others. Candidates identify few, if any, assessment strategies that accommodate diverse students' needs.</p> <p>Candidates rarely consult with specialists in order to improve assessment strategies that address diverse students' needs, particularly those with exceptionalities.</p>	<p>designed to inform decisions about student intellectual, social, emotional, and physical development and the effectiveness of environmental education instructional strategies and materials. Candidates select, adapt and use assessment strategies and technologies, including assistive technologies that accommodate diverse students' needs, particularly English language learners and those with exceptionalities.</p> <p>Candidates consult with specialists in order to improve environmental education assessment strategies that address diverse students' needs, particularly English language learners and students with exceptionalities.</p>	<p>assessments designed to inform decisions about student intellectual, social, emotional, and physical development, the effectiveness of environmental education instructional strategies and materials, and overall environmental literacy achievements. Candidates design and implement a wide variety of assessment strategies and technologies, including assistive technologies that accommodate diverse students' needs, particularly English language learners and those with exceptionalities.</p> <p>Candidates consult with specialists and seek other professional development opportunities in order to improve environmental education assessment strategies that address diverse students' needs, particularly English language learners and students with exceptionalities.</p>
<p>6.2 Candidates impact diverse students' learning by using assessment data, collected and analyzed with the aid of technology, to inform environmental education instruction.</p>	K, S, D	<p>Evidence indicates that:</p> <p>Candidates use technology in limited ways to improve the efficiency of assessment data collection and/or analysis.</p> <p>Candidates draw few, if any, appropriate conclusions about student development and achievement from assessment data.</p>	<p>Evidence indicates that:</p> <p>Candidates use information and assistive technologies effectively to improve the efficiency of assessment data collection and analysis.</p> <p>Candidates impact diverse students' learning by using results from multiple assessments to modify and improve future instruction. Candidates reflect on what</p>	<p>Evidence indicates that:</p> <p>Candidates collect, manage and analyze assessment data effectively and efficiently using appropriate information and assistive technologies in order to improve instruction.</p> <p>Candidates impact diverse students' learning by critically reflecting on teaching experiences and assessment results. They organize and interpret results from a variety of</p>

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹⁰</u>
			they have learned from assessments and demonstrate how they have adjusted instruction to meet the needs of diverse students, including those with exceptionalities.. The commitment to use assessment results to improve student learning is reflected in their environmental education planning and instruction.	assessments to help modify and improve future instruction. Candidates incorporate what they have learned from assessments and reflection and show how they have adjusted instruction to meet the needs of diverse students, including those with exceptionalities. The commitment to do this is reflected in their environmental education planning and instruction. Candidates use assessment results as they work with students individually to help them identify the gaps in their environmental knowledge and skills.
6.3 Candidates impact diverse students' learning by communicating assessment results and achievement to appropriate individuals.	K, S	Evidence indicates that: Candidates report student progress in terms of grades, scores and information on discrete aspects of environmental learning and literacy.	Evidence indicates that: Candidates interpret and report accurately the progress individual students are making in terms of environmental learning and literacy. They use performances to illustrate both what students can do and how they can advance. Candidates ensure that students and their parents understand learning expectations and progress. They use appropriate terminology and share examples that illustrate student environmental learning and literacy.	Evidence indicates that: Candidates identify ways of involving students in understanding assessment strategies so that students gain confidence in self-assessment and in planning for personal growth. Candidates interpret and report accurately the progress students are making in terms of environmental learning and literacy. They perform in-depth analyses of assessment data and communicate results to students and their parents, focusing on what students can do and how they can advance. They use appropriate terminology and share examples that illustrate student environmental learning and literacy.

STANDARD 7. Professional Growth in Environmental Education. Candidates recognize the importance and benefits of belonging to a professional community, and understand that professional development is a life-long endeavor and an indispensable asset to becoming a contributing member of the environmental education profession. Candidates understand and accept the responsibilities associated with practicing environmental education.

Supporting Explanation

The environmental education community is diverse. Candidates understand that they belong to a community whose members teach all age ranges from early childhood through adults, work in school, community and nonformal education settings, and are employed by school districts, for profit organizations, government agencies, and not-for-profit organizations at the local to international levels. They recognize that this extended community provides rich opportunities for themselves and their students. They value the benefits of belonging to such a community. As members of the environmental education community, they understand the importance of lifelong learning. They view their own professional growth as one that is continuous. They reflect on their preparation, knowledge and skills, and seek opportunities for professional development. They are able to identify a range of professional development providers from whom they can access opportunities to strengthen their own environmental literacy and teaching skills. They understand that reflection can be an effective form of professional development and that by becoming a reflective practitioner they will improve as a teacher. Candidates understand that environmental education often involves teaching about controversial topics and issues. They recognize the distinction between education and advocacy. Understanding that how environmental problems and issues are viewed depends greatly on an individual’s values and beliefs, candidates strive to provide accurate, balanced instruction about environmental conditions, issues, or actions.

Attributes: K = Knowledge S = Skills D= Dispositions

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target¹¹</u>
7.1 Candidates identify the benefits and recognize the importance of belonging to a professional environmental education community.	K	Evidence indicates that: Candidates identify a limited number of professional environmental education communities and acknowledge few, if any, benefits of belonging to one.	Evidence indicates that: Candidates describe the characteristics of professional environmental education communities and articulate the benefits of belonging to at least one of them.	Evidence indicates that: Candidates compare the characteristics and purposes of a wide range of environmental education professional communities and participate in at least one of them.

¹¹ The Target level is considered to be additive and encompasses all knowledge, skills and dispositions included in the Acceptable level.

Elements of Standard	Attributes	Unacceptable	Acceptable	Target^{II}
7.2 Candidates engage in environmental education professional development opportunities, including technology-based opportunities.	K, D	<p>Evidence indicates that:</p> <p>Candidates acknowledge little need for ongoing professional development.</p> <p>Candidates participate in few, if any, professional development opportunities.</p> <p>Candidates engage, on a limited basis, in a reflective process to improve teaching and learning for environmental education.</p> <p>Candidates identify, access, and use technology based resources in support of their environmental education professional development on a limited basis.</p>	<p>Evidence indicates that:</p> <p>Candidates express the need for professional development, identify immediate professional development needs, and identify potential providers to meet these needs.</p> <p>Candidates participate in selected professional development that strengthens their environmental literacy, fosters reflection on practice, and improves environmental education instructional skills.</p> <p>Candidates engage in a reflective process to improve environmental education teaching and learning. They incorporate information gained from assessment results and feedback from students, parents and education professionals into their reflective process.</p> <p>Candidates identify, access, and use technology based resources in support of their environmental education professional development.</p>	<p>Evidence indicates that:</p> <p>Candidates seek opportunities for professional growth in environmental education and outline a process for continuing professional development.</p> <p>Candidates participate in a wide range of professional development activities that strengthen their environmental literacy, foster reflection on practice, and improve environmental education instructional skills.</p> <p>Candidates engage in a thorough and systematic reflective process to improve environmental education teaching and learning. They consistently use information gained from assessment results and feedback from students, parents, community members and education professionals as integral components of their reflection.</p> <p>Candidates identify, access, and use a wide variety of technology based resources in support of their environmental education professional development.</p>
7.3 Candidates provide accurate, balanced, and effective environmental education instruction.	K, S, D	<p>Evidence indicates that:</p> <p>Candidates promote a limited number of viewpoints pertaining to a particular environmental condition, issue or action.</p>	<p>Evidence indicates that:</p> <p>Candidates provide accurate, balanced and effective instruction about environmental conditions, issues, and actions. Candidates commit to creating a classroom atmosphere that is open to</p>	<p>Evidence indicates that:</p> <p>Candidates provide accurate, balanced and effective instruction about environmental conditions, issues, and actions, creating a classroom atmosphere that is open to inquiry</p>

<u>Elements of Standard</u>	<u>Attributes</u>	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Target^{II}</u>
			inquiry.	and providing on-going opportunities for students to explore multiple perspectives, form their own opinions, and explain their beliefs.
7.4 Candidates develop a rationale for environmental education and understand the need to advocate for the field of environmental education.	K	<p>Evidence indicates that:</p> <p>Candidates develop a rationale for environmental education that includes few key benefits of environmental education and environmental literacy. Candidates identify few, if any, sources of data to support environmental education.</p> <p>Candidates describe a limited number of the roles alliances can play in advocacy efforts for P-12 environmental education.</p>	<p>Evidence indicates that:</p> <p>Candidates develop a well-articulated rationale for environmental education that describes key benefits to students and the importance of an environmentally literate citizenry. Candidates choose appropriate data sources to support these arguments.</p> <p>Candidates describe multiple roles alliances and partnerships play in advocacy efforts for P-12 environmental education.</p>	<p>Evidence indicates that:</p> <p>Candidates articulate a well-reasoned and thorough rationale for environmental education that addresses the cognitive, academic, and affective benefits to students as well as the importance of an environmentally literate citizenry. Candidates access multiple sources of data and synthesize findings to prepare a coherent rationale for environmental education.</p> <p>Candidates analyze the roles alliances and partnerships play in advocacy efforts for P-12 environmental education and critique previous efforts.</p>