Age-Appropriate Programs: Best Practice: Effective programs are designed to match the developmental stages of the learner

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Topic: Age-Appropriate Programs

Best Practice: Effective programs are designed to match the developmental stages of the learner.

Children and adults learn in completely different ways. Too often, however, children’s programs are developed from an adult’s perspective, rather than that of a child. The best children’s environmental education programs are designed with children’s abilities, developmental needs, interests, and learning styles in mind. Different programs should be created to appropriately meet the needs of different age groups and their respective cognitive development, attention spans, coordination abilities, interests, and ways of interacting with nature. A good rule of thumb:

One size does not fit all; one program does not fit all ages!

For example, a common mistake is to use concepts that are too abstract for an age group. Children do not begin to develop the ability for abstract reasoning until age nine. In fact, the transition from concrete to abstract thought can continue throughout a person’s life, with 68 percent of us never completely attaining this stage of formal reasoning.

Similarly, although studying the loss of rainforests and endangered species might be perfectly appropriate for middle school students, younger students are not ready, developmentally, to deal with these problems. In fact, when we present these types of issues to children who are too young, we can inadvertently foster feelings of anxiousness, helplessness, and potential fear of the natural world and ecological problems.

Additional Resources and Information

Excellence in Environmental Education – Guidelines for Learning (Pre K-12) (North American Association for Environmental Education, www.naeee.org) offers a framework for skill levels and knowledge appropriate for three grade levels -- fourth, eighth, and twelfth grades. In Beyond Ecophobia: Reclaiming the Heart in Nature Education (Orion Society’s Nature Literacy Series, 1999), David Sobel claims, “If we want children to flourish, we need to give them time to connect with nature and love the Earth before we ask them to save it.” The book provides great suggestions and examples of age-appropriate activities.

References

# Suggestions and Guidelines for Working with Children

<table>
<thead>
<tr>
<th>Grade</th>
<th>Characteristics</th>
<th>Effective Techniques/Methods</th>
<th>Techniques/Methods That Should Be Avoided</th>
<th>Appropriate Topics</th>
<th>Topics to Avoid</th>
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</table>
| K-2   | o Play is important, especially creative, dramatic  
o Active constructors of knowledge  
o Learning is result of interactive processes  
o Concrete thinkers: believe only what can be seen  
o Has difficulty controlling impulses and regulating behavior | o Develop a sense of connectedness and empathy for the natural world by becoming things – hop like a rabbit, slither like a snake, roar like a mountain lion  
o Active constructors of knowledge  
o Manipulatives (large size)  
o Engage all senses  
o Activities that last 5-10 minutes. | o Allow children to become things before objectifying them – e.g., fly like a bird before identifying different kinds of birds  
o Should not sit still or listen passively for more than 5-10 minutes. | o Life Cycles  
o Colors, patterns  
o Locomotion  
o General characteristics – plants, animals and objects can be sorted by these characteristics  
o Animal senses | o Tragedies: big, complex problems beyond the scope of the child’s world – endangered species, habitat destruction, natural disasters.  
o Ecology (ecological cycles are too extended in time and space) |
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<tbody>
<tr>
<td>6-8</td>
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<tr>
<td></td>
<td>o Continued transition to abstract thinking</td>
<td>o Service-learning opportunities</td>
<td>o Having to sit still or listen passively for more than 20 minutes.</td>
<td>o Ecological relationships – interactions between organisms and their habitats</td>
<td>o Avoid framing environmental issues in dichotomies: e.g., jobs vs. owls. Rather, foster critical thinking by in-depth exploration of issues. Students should be given the freedom to formulate and evaluate their own personal views of issues.</td>
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<td></td>
<td>o Able to hypothesize, propose solutions, and evaluate</td>
<td>o Activities that use physical energy and foster higher-level thinking and problem-solving skills</td>
<td>o Too much lecture.</td>
<td>o Habitats, ecosystems</td>
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<td>o Developing an understanding of ethical principles</td>
<td>o Activities that are student-driven and experiential. The instructor can begin by engaging the learner and sharing key information. Then the learner should engage in an activity that allows the learner to apply knowledge and answer questions.</td>
<td>o Singling out individuals and making him or her feel different from others.</td>
<td>o Adaptations</td>
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<td>o Self-conscious; concerned how he/she is perceived by others</td>
<td>o Cooperative learning groups</td>
<td>o Talking “down” to this group – they need to feel adult-like.</td>
<td>o Heredity and genetics</td>
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<td>o Socially responsible; primed to play a role in the health of nature and society</td>
<td>o Allow students to create their own predictions, pose hypotheses, and/or design their own investigations.</td>
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<td>o Regulation and behavior</td>
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<td>o Able to understand metaphor and complex issues</td>
<td>o Allow students to use research to investigate environmental issues.</td>
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<td>o Populations and ecosystems</td>
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<td>o In a period characterized by “Storm and Stress”</td>
<td>o Activities that last 20-40 minutes</td>
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<td>o How organisms change through time</td>
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<td>o Energy</td>
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<td></td>
<td></td>
<td>o Earth’s history, geology, weather and climate</td>
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<td>o Mapping, orienteering</td>
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<td>o Human impacts</td>
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<td>o Characteristics of our solar system</td>
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| 9-12  | Continue transition to abstract thinking  
Able to hypothesize, propose solutions, and evaluate  
Able to understand metaphor and complex issues  
Self-conscious; concerned how he/she is perceived by others  
Socially responsible; primed to play a role in the health of nature and society  
Concern for what the future holds for them personally  
Group-oriented; peer groups shape individual behaviors and actions  
Time constraints such as sports, social commitments, and work | Cooperative learning groups  
Discussion methods  
Use analogies that reflect student interest  
Involve students in planning the direction of their learning  
Experiential activities that are more self-directed  
Allow students to create their own predictions, pose hypotheses, and/or design their own investigations  
Allow students to use research to investigate environmental issues  
Activities that last 20-40 minutes | Should not sit still or listen passively for more than 20 minutes  
Too much lecture  
Singling out individuals and making him or her feel different from others  
Talking “down” to this group – they need to feel adult-like | Ecological relationships – interactions between organisms and their habitats  
Habitats, ecosystems  
Biodiversity  
Heredity and genetics  
Regulation and behavior  
Populations and ecosystems  
How organisms change through time  
Energy  
Earth’s history, geology, weather and climate  
Mapping, orienteering  
Humans as part of the environment  
Influence of weather and climate  
Origins and evolution of the universe | Avoid framing environmental issues in dichotomies: e.g., jobs vs. owls. Rather, foster critical thinking by in-depth exploration of issues. Students should be given the freedom to formulate and evaluate their own personal views of issues. |