

SCIENCE DISSECTED

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Promoting Environmental Literacy

On March 28th 2009, the Las Vegas Strip was not illuminated to its usual glamorous manner. Many casinos and businesses turned off all nonessential lighting to make an environmental statement. The reduction of the lighting was part of Earth Hour 2009 and major cities throughout the world participated in the event. The goal of Earth Hour was to make citizens around the world aware of the effects of human induced global climate change. Although there is debate over the amount that human activities impact climate change, it is important to recognize how human activity disrupts the environment and the need for populations to lead sustainable lifestyles. Events such as Earth Hour and Earth Day, provide the perfect opportunity to incorporate environmental science into the classroom.

It is important to inform students how the community, economy, and environment are interrelated. Fostering environmental literacy among our students is a key step to developing environmentally responsible citizens. Environmental education is interdisciplinary and can be incorporated into several subjects such as science, math, social studies, and language arts throughout all grade levels. The recently passed economic stimulus package included many environmental initiatives. Students need to be made aware of and possibly prepare for the “green jobs” that will be created. In order to prepare for the future, America needs to be fostering environmentally literate citizens that will be able to provide solutions to complex environmental issues.

Most Americans incorrectly assume that they know more about the environment than they actual do. According to *Environmental Literacy in America* (Coyle, 2005), only one-third of American adults can pass a basic test of environmental knowledge. In addition, only 12% can pass a quiz on the awareness of basic energy topics. Approximately 80% of the polled Americans also believe common myths or outdated material that have been exaggerated due to the media. For example, many Americans believe that diapers are the leading problem in landfills and that six-pack rings are the most common material involved in wildlife entanglement. Although they performed poorly on the questionnaires, 95% of the adults support an increase in environmental education in US schools.

As an unlikely location for a growing metropolis, Las Vegas can serve as a model to sustainable lifestyles. Recent efforts by the Springs Preserve and UNLV's Urban Sustainability program, try to educate the public and encourage them to make environmentally responsible decisions about their lifestyles. Awareness and understanding of the current water shortage, renewable energy initiatives, and waste reduction issues may spark an interest to change the practices of businesses and homeowners. Currently, many individuals are aware of the water shortage and the dropping levels of Lake Mead. Water conservation advertisements from the Southern Nevada Water Authority remind their audience that, “It's a desert out there. Be water smart.” Water conservation is equally as important as energy conservation. Many Las Vegas, believe that

How Big is Your Ecological Footprint?

Try this quiz and encourage your students and their families to also take it. After a series of questions, you will be given your carbon, food, housing, & goods and services footprint. At the end of the quiz, you will be told how many Earths would be needed if everyone on the planet lived your lifestyle.

The quiz is available at <http://www.myfootprint.org/>

What on Earth Day?

This event is scheduled on Saturday, April 25, at the Springs Preserve to inspire awareness of and appreciation for the Earth's environment with Earth Day Olympics, scavengers hunts, special tours, live entertainment and more from 10 a.m. to 4 p.m.

For more information visit <http://www.springspreserve.org/html/home.html>

a majority of their electricity is provided by hydroelectric power from Hoover Dam. In fact, Las Vegas receives most of its electricity from nonrenewable natural gas power plants. The general public also does not realize that the dropping levels of Lake Mead will impact the energy that is produced at Hoover Dam. The reduction and reuse of materials is also an environmental priority. Although a recycling program exists in the valley, the Las Vegas area produces two times as much waste compared to other similar-sized United States metropolitan areas. There are many changes that could be made to support sustainable lifestyles in the Las Vegas community.

In order to establish environmentally literate citizens, collaboration needs to exist among schools, families, and the community. Teaching students the importance of reducing, recycling and conserving natural resources does not necessarily mean that recycling and conservation activities will occur in the home. Some households may recycle or conserve, but not truly understand the benefits or consequences of their actions. The environmental literacy framework developed by Coyle (2005) illustrates these points. According to the framework, there are three basic levels of learning: 1. environmental awareness, 2. personal conduct knowledge, and 3. true environmental literacy. As shown in Figure 1, the framework is represented as a continuum. An individual does not need to understand an issue in order to practice it. Consequently, an individual may recognize the need or the importance of an action, but chose not to participate. According to the Roper report, most Americans (50-70%) operate that the awareness level and recognize environmental concerns. The second level, personal conduct knowledge, does not require an individual to have detailed knowledge of an environmental issue. However, individuals at this level are willing to take personal action and make a connection between the environmental issue and their conduct. The final level involves true environmental literacy, which requires an individual to understand the principles and to be able to apply them to a situation. Environmental literacy goes beyond awareness and personal conduct and encompasses true understanding of environmental concerns.

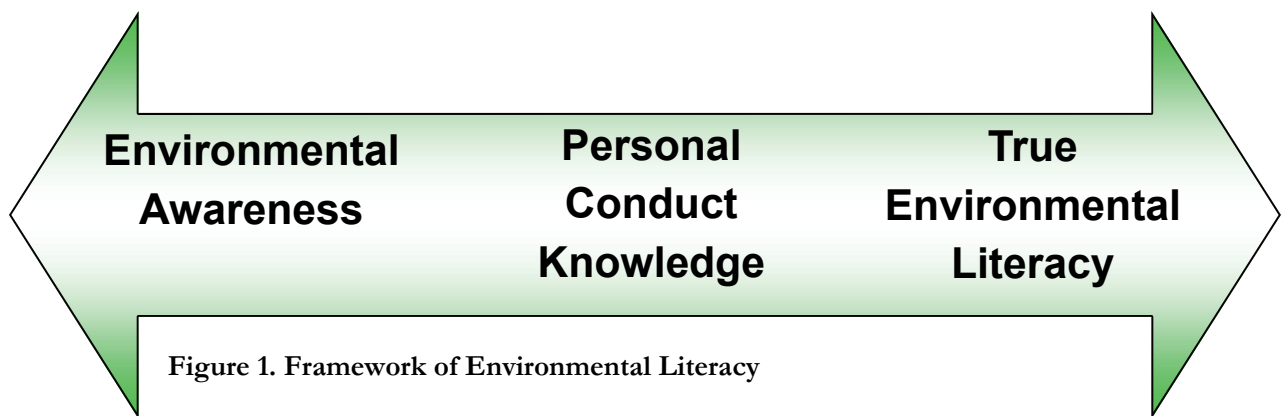


Figure 1. Framework of Environmental Literacy

Highlighting environmental topics on Earth Day may make students aware of an issue or possibly influence their personal conduct. However, in order to achieve an environmentally literate American public, environmental education needs to be incorporated throughout subject areas and throughout the grade levels. For more information on Nevada's environmental literacy plan and to contribute to the project, visit www.nvliteracyproject.wetpaint.com.

Environmental Education and Earth Day Links

Earth Day Network: <http://www.earthday.net/>

Education World: Earth Day: <http://www.educationworld.com/holidays/archives/earthday.shtml>

Environmental Literacy in America Report: <http://www.neefusa.org/pdf/ELR2005.pdf>

EPA-Climate Change Kids Site: <http://epa.gov/climatechange/kids/index.html>

No Child Left Inside Coalition: www.nclcoalition.org

Population Connection: www.populationeducation.org/

Population Reference Bureau: www.prb.org