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THE GREENING OF EDUCATION

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ABSTRACT. Education about the environment has been going on for as long as man has had a natural environment in which to live. This education has been called environmental education. Environmental education exists in all types of settings, informal and formal, for multi-age, multi-cultural populations. The goal of environmental education is to produce an environmentally literate citizen who can make informed decisions based on knowledge and values. Today, many children are removed from experiencing in a direct experiential manner, the natural world around them. The effectiveness and the quality of environmental education varies for many reasons. There is an environmental backlash which blames environmental education for advocacy education and for teaching emotional programs and misinformation. They claim a type of "greenwashing" of our children is happening. Environmental knowledge based on accurate science should be available to all of us to help us become environmentally literate citizens.

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> "It does not take much insight to realize that boys and girls have not been trained to keep eyes and ears, mind and heart open to nature. If they have not been exposed or acquired a taste for cultivating and solving problems connected to their environment before they reach the seventh or eighth grade, they are not likely to acquire a permanent and enthusiastic interest in the out of doors."

These words were written by John Colter in 1909, and they are as applicable today as they were then, with a few modern changes. Current research tells us that today's children have established their values by age 9 or 10. This would put them in fourth or fifth grade. I believe that appreciation of nature is something that imprints children early in their lives and has a lasting effect upon them. This is one reason why it is so critically important to green the educational experiences of children during early elementary years. The more connections to nature and the natural environment that a child makes at an early age, the more open that child remains to the opportunities for learning and understanding of the world which surrounds him, both natural and man-made.

Trends for teaching young people about the environment predate written history. As society changed so did the emphasis on learning about the natural world. The pendulum of green education has traveled under the guise of nature study, conservation education, outdoor education, experiential education, ecological education, the camping environment, stewardship and just plain natural history and life science (Hammerman *et al.*, 1994). Whatever the title, these studies have all contributed to basic understandings of the environment in specific ways to the learner. Today, aspects of these earlier environmental approaches are being integrated into a broader approach. Nature study occurred anywhere from informal leisure recreational settings through formal structured academic settings. These subject areas have all been forerunners to what we currently call environmental education. In some ways, the broad spectrum of environmental education encompasses all of these earlier natural movements and is not limited in context as were many of the earlier movements.

In the decade of the 1960's, people came to the realization that the resources of the earth were limited and that the actions of our lifestyles were contributing to the deterioration and degradation of the environment. Many people used the environment in three ways: as a space for living, a bank for natural resources and a sink for wastes. They only wanted the three C's: comfort, convenience and consumerism. Senator Gaylord Nelson spearheaded a national awareness and celebration of the Earth with seminars and teach-ins on April 22, 1970, calling this event "Earth Day." The events focused on the environment, environmental issues and on political action. Mounting concern with problems of the environment resulted in the passage of the National Environmental Education Act, which recognized the primary role education must play in bringing about environmental understanding and responsibility.

What is environmental education? Based upon a formal definition, environmental education is seen as that which seeks to achieve a world view of the entire environment—natural, man-made and personal. Interdisciplinary in nature, its ultimate aim is to change attitudes and behavior patterns so that appropriate action is taken to maintain or restore the health of the environment.

In essence, it strives to produce environmentally literate citizens. Often it is hands-on, experiential direct learning. There is a consensus

that environmental education extends beyond simply teaching about the environment. Environmental educators attempt to move students, or learners, from an environmental awareness to an action level. Environmental education is concerned with the bio-physical, cultural, personal and global factors and relationships within the environment.

The Belgrade Charter of 1975 was adopted by a United Nations conference and provides a widely accepted goal statement for environmental education:

> The goal of environmental education is to develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones (Simmons 1997).

A few years later, at the world's first intergovernmental conference on environmental education, the Tbilisi Declaration of 1978 was adopted (UNESCO 1978). This declaration built on the Belgrade Charter and established three broad objectives for environmental education:

- to foster clear awareness of, and concern about, economic, social, political and ecological interdependence in urban and rural areas;
- to provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment;
- to create new patterns of behavior of individuals, groups and society as a whole toward the environment.

Today, environmental education is characterized by some essential elements (Simmons 1997). These include:

- Environmental education is based in knowledge about ecological and social systems. It draws on and integrates knowledge from disciplines that span the natural sciences, social sciences and humanities.
- Environmental education emphasizes the critical thinking and problem-solving skills needed for informed personal decisions and public action.
- Environmental education considers humans and their creations to be part of the environment. Along with biological and physical phenomena, environmental education considers social, economic, political, technological, cultural, historical, moral, and aesthetic aspects of environmental issues.
- Environmental education emphasizes the role of attitudes, values and commitments in shaping environmental issues. It acknowledges that environmental issues are not strictly scientific in nature. Recognizing the feelings, values, attitudes and perceptions at the heart of environmental issues is an essential step in understanding them, and a precursor to accepting responsibility for exploring, analyzing and resolving them.

Last summer, 20 years after the Tbilisi United Nations Environmental Education meeting, participants at a UNESCO inter-regional workshop came to the conclusion that the Tbilisi Doctrine and its associated principles continue to be an appropriate framework for achieving the goals of environmental education (Knapp 1997). At that time the participants decided not to change the name of environmental education to sustainable education. There was consensus that the awareness of action principles set forth in the doctrine were still consistent foundations.

Environmental education should be holistic in its approach to teaching, incorporating environmental knowledge, attitudes, values, and behavior. Often the focus has been placed on teaching environmental attitudes/values, rather than knowledge, to stimulate behavioral change. There has been a widespread belief that teaching attitudes/values would bring about a change in behavior. There have been documented research studies that demonstrate that people's actions do not always support what they believe or claim is important to them. It is the obligation of education to stimulate the development of knowledge so that the learner can make informed decisions. The goal is environmental literacy, which addresses the need to learn how people can live in harmony with the environment. This learning involves understanding natural systems and how human systems relate to them and acquiring basic skills that prepare people to deal effectively with environmental problems and issues. Hopefully, a sense of stewardship or an environmental ethic would evolve within the learner, a development of an ecological conscience and responsible commitment (Disinger 1993).

While our schools play a major role, cultivating environmental literacy is a task that neither begins nor ends with formal education. Environmental education occurs at home, in parks, nature centers, planetariums, aquariums, zoological and botanical gardens, museums, agencies, and businesses. Environmental education is often education targeted for a multi-age audience.

It is available through a variety of programs, outreach, classes, eco-tourism, written materials, television, and formal education. In the broadest sense, environmental education is or should be a life-long process. Traditionally, environmental

education has targeted children and formal school systems. It is equally important that today's adults understand the Earth and the global issues affecting the environment in its totality, natural environments, man-made environments, including cultural and historical influences. One of the most urgent problems today is how to translate and transmit in simple understandable terms such vital concepts as interdependence, limitation of non-renewable resources, human population growth, energy flow, sustainability, and biodiversity. This becomes of major significance when one recalls the fact that the vast majority of the world's population, youth as well as adults, is outside the formal school system and educational process. Thirty-seven percent of the world population of 6.3 billion people is under fifteen years of age (Hinrichen 1994). A personal connection must be made to provide a motivation and purpose for the developing of a sensitivity and appreciation of the environment. We all need some green education. We all need to cultivate an environmental literacy that can aid us in making wise and informed decisions. The decisions that we make and shape as community members, leaders, employees, family members, and individuals will shape the future and affect us all.

The range of effectiveness for the quality of environmental education varies (Hungerford 1996).

While there are many outstanding examples of school-based environmental education efforts across the nation, the content and quality of environmental education varies widely. The reasons for differences in quality range from a lack of resources to low priority in state curricula and from shortcomings in teacher training to increasing demands on educators' time and public apathy.

Another reason that the quality of environmental education in schools across the country is inconsistent is that there are no agreed-upon curricula or standards for environmental education. Environmental education is often seen as interdisciplinary and not as a discipline in itself, therefore, it may be included in the curriculum in a hit or miss fashion. In the non-formal sector the same is true, with the range of effectiveness dependent upon the staff, the training the staff receives and the content of their programs. Much environmental education is done under the guise of agencies hoping to enhance their images by advocating their greenness. Examples include industries like Budweiser and Proctor & Gamble jumping on the Green bandwagon in hope of generating public, political or financial support.

All natural systems have relationships to global climate change, ozone depletion, air and water pollution, acid rain, deforestation and development. Information on these issues is continuously in the news as front page items, and is also available through news media, books, environmental organization newsletters, educational television, the Internet, and magazines. In a 1994 national survey asking junior and senior high school students where they learned about environmental education issues, the majority responded that they learned from friends and relatives and local news reports. They viewed themselves as having little opportunity to respond to these issues and to have little impact in solving the environmental problems of the world.

According to a March 1997 *TV Guide* magazine, American youngsters will spend more time watching television than attending class by the time they reach the end of high school. Children watch an average of 3.5 hours of television each day. Television is an environmental wasteland. It seldom raises and meaningfully discusses such basic issues as biodiversity loss, resource and excessive consumerism.

Yet, television is teaching our children about the environment. What a wonderful way to learn about the environment . . . no smells, no bugs, no creepy crawlies, no heat, no physical discomfort from hiking or just being outside, only entertainment. There is not much of a challenge watching television. When faced with the challenge of being outside on field trips the children are full of complaints and often say "we haven't seen anything," or "this is boring." A report prepared for the Pew Charitable Trusts entitled "Pieces of a Puzzle; An Overview of the Status of Environmental Education in the United States" was released in 1995 (Lieberman). It found that the six environmental education topics most often covered were:

1. wetlands
2. wildlife conservation
3. general ecological principles
4. endangered species
5. water pollution
6. recycling

The least common topics of environmental education covered were:

1. land use
2. farming systems
3. human population
4. temperate ecosystems
5. toxic waste

The results of the survey stated that environmental education has much to offer educational reform. At the present time there are a multitude of school and education initiatives that are being

promoted. Environmental education has modeled some educational approaches that exemplify the hopes of the reform movement. Environmental education has made use of innovative teaching methods, including "hands-on" activities; subject matter that is relevant to everyday life; and topics that engage students and allow them to become active participants in changing the way the world works.

Environmental education has stressed "thinking globally while acting locally." We need to bridge this gap with today's children. Children often know more about what is happening globally, but not what is happening in their own backyards or neighborhoods. Perhaps we should emphasize the saying "learn it locally and transfer it globally." Children need to have experiences in the natural world. Many children of today are growing up in a manner that keeps them quite isolated from the world of nature. They are given few opportunities to interact with the natural environment and are thrust into a way of living that shows little respect for the integrity of the natural world. They tend to spend the majority of their time indoors, with only limited opportunities for experiencing and exploring the world of nature. Such children are at risk of never developing a personal bonding with the natural world and may grow up believing that they are separate from the laws of nature rather than an interrelated part of the world of nature. They may never develop an awareness of the interrelationship that exists among all living things and may never realize their dependence for existence on the natural world.

Children and adults tend to spend more time indoors and are out in the open air only in urban or city areas, residential and city streets, manicured parks, busy beaches, and screened porches. Nature may seem alien, weird, dangerous or irrelevant. These feelings may be influenced by movies like "Jaws" and "Jurassic Park." Their senses, which have been tuned toward nature through our long history with nature, are denied the feelings, the smells, the visual complexity of the natural world. Many individuals feel bored and nervous when they are in a natural setting because they do not know or understand the flora and fauna around them. They are more secure indoors to experience nature through the eyes of television with no discomfort, no smells, no bugs and nothing that will bite or sting while they enjoy seeing the life cycle from birth, metamorphosis, mating, predation and death of a wild animal, all in less than 30 minutes, including commercials. This often influences their impatience with the real natural scene when they experience very little wildlife in their visits to natural surroundings. This "fast food syndrome" of wildlife watching has greatly influenced eco-tourism and participation in specific tours where wildlife viewing is guaranteed. Television has the potential to reach many of the world's population and influence their perceptions about nature. Unfortunately, not all of the programming is accurate and unless someone has the background and knowledge to recognize the inaccuracies, much false information is believed by the viewer.

Much of the poor programming, media information and poor environmental education has created an environmental backlash (Saner and Show 1996). The 90's were billed as the "decade of the environment" for the 20th anniversary of Earth Day, but concern and enthusiasm and financial support for environmental education have waned. We have made many strides forward in producing an environmentally literate person. Still, we are often labeled as "environmentalists" or "tree huggers" with a negative connotation. Advocacy environmental education has been a source of this reaction. Emotional education for a cause or for political activism to "save the earth" has added fuel to the fire. Environmental educators have been accused of "greenwashing," and being responsible for the poor showing American children make in science or math testing, junk science and myriad other accusations. The backlash appears to be organized around these six trends:

- Environmental education (E.E.) is often based on emotionalism, myths and misinformation.
- is often issue-driven rather than information-driven.
- typically fails to teach children basic economics or decision-making processes, relying instead on mindless slogans.
- fails to take advantage of lessons from nature, and instead, preaches socially or politically correct lessons.
- is devoted to activism and politics, rather than knowledge and understanding.
- teaches an anti-anthropocentric philosophy, that man is an intrusion on earth and is at times evil.

As a result of this anti-environmental movement's assault on environmental education, the reauthorization of the 1990 National Environmental Education Act has not yet been successful. This legislation was up for reauthorization in 1996. The wise-use and free market organizations are lobbying against environmental education. They do not want a green education for our children. We must all be vigilant, learn the issues, learn the natural systems and encourage both children and adults to personally evaluate the issues and make decisions based on their

knowledge, understanding, values and critical thinking skills.

The purpose of a sound environmental education program is vital to the well being of society as it provides children and adults opportunities to discover and investigate plants, animals and ecological relationships within their own communities. This is a process of preparing students to develop an awareness of environmental systems and how human activity affects these systems and in the long run prepare the students to become responsible citizens. Children who experience direct, first hand encounters with nature in a learning experience are more likely to develop a respect and understanding for the interrelationships of natural ecosystems. Without such exposure to natural areas, they are unlikely to acquire a permanent and enthusiastic interest in the natural world or a knowledge base for cultivating and solving problems connected to their environment. Environmental education utilizes the outdoor environment as a tool for enriching, vitalizing and complementing the subject content.

Let me close with a quote from Baba Diom: "in the end we will conserve only what we love; we will love only what we understand; and understand only what we have been taught." I might add we come to appreciate only what we have experienced. Through that appreciation we come to value and to love nature and to become good stewards and environmentally literate; education with a tinge of green.

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