

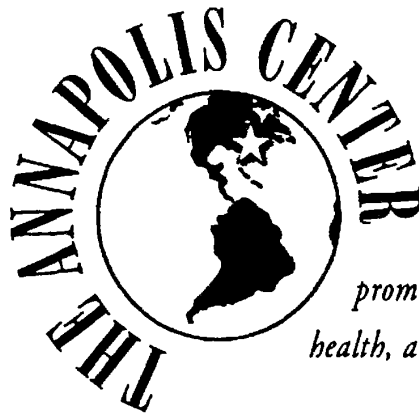


*promoting responsible environmental,
health, and safety decision making*

"Living With Risk"


a cooperative education program offered by...

The Annapolis Center



*promoting responsible environmental,
health, and safety decision-making*

111 Forbes Street, Suite 200
Annapolis, MD 21401
(410) 268-3302 • Fax (410) 268-4953
(800) 408-1871

 *printed on recycled paper*

2065243840

Summary

In an era of proliferating information where competing and often conflicting data and opinions are increasingly presented, it becomes necessary to teach young people balanced ways to evaluate situations and decide what to do. The complexity and importance of human and environmental challenges face us daily and critical thinking and reasoned judgment are necessary to find equitable solutions to difficult problems.

Today's youth are tomorrow's parents, voters, opinion leaders, workers and consumers. They will also be stewards of our natural environment, our commerce, our technology, our laws, our society and our neighborhoods. However, many youth have unrealistic expectations: they want to live in a risk-free world, but insist on an ever-increasing standard of living. What many fail to recognize is why these two demands are often incompatible.

Approach

To improve the youth's knowledge base and decision-making process, The Annapolis Center and The Earth Generation (TEG) have initiated a dynamic program to educate middle and junior high schools students on how to understand and apply risk analysis to current health and environmental issues. As such, *Living With Risk*, will support the fundamental conclusion of the 1990 Report of the Science Advisory Board, *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*:

There are heavy costs involved if society fails to set environmental priorities based on risk. If finite resources are expended on lower-priority problems at the expense of higher-priority risk, then society will face needlessly high risks. If priorities are established based on the greatest opportunities to reduce risk, total risk will be reduced in a more efficient way, lessening threats to both public health and local and global ecosystems.

Students will be taught that they do not live in a risk-free world. They will recognize that every day they make decisions that affect their health, safety and environment related to drugs, violence, AIDS, smoking, sun exposure and loss of habitat.

Phase One: Pilot Program

The first phase of this program is to develop a series of 3-4 teaching units, which would be national in scope and curriculum compatible in selected 5-6 key states. Accessible over the Internet, the material will allow teachers to do a better job of teaching risk identification, risk assessment, risk comparison, and risk management. The units will help students realize how often they already engage in this type of thinking and how their skills can be improved. In addition, teachers will be provided with up-to-date information and activities on current health and environment issues.

2065243841

The material would be marketed to teachers, who would be able to access the information over The Annapolis Center's Website. Teacher training materials will be included in the Website and will provide educators the skills to guide students through risk discussions and activities.

TEG would follow-up with teachers by telephone to receive feedback on the material, its ease of use, etc.

Phase Two: Go to the States

In Phase Two, The Annapolis Center and The Earth Generation will seek state sponsors of the program. In this program, the State Sponsor helps to select one or more issue(s) of major importance or interest to the State and/or region for inclusion as a "unit". Each teacher could then build their teaching lessons around whichever "national" or generic units and those of specific interest in to their State or region.

State Sponsors could be identified on the Website and on the page of that State's interest.

The Annapolis Center and The Earth Generation would encourage the State Sponsors to form Regional Advisory Committees to help identify and address issues relevant to their states. These committees will focus on community involvement in order to link schools and communities on health and environment issues important to both. These Regional Advisory Committees give state and local leaders from industry, government, and public interest groups as well as parents an important opportunity to be involved in tailoring The Annapolis Center's educational program. This will give students the opportunity to critically evaluate health or environmental problems in their own backyard.

Living With Risk Objectives

- To increase student awareness of the hazards related to their health, safety and environment
- To build student understanding of the concept of risk and risk analysis.
- To establish and expand students skills in decision-making.
- To enhance student awareness of health, safety and environmental issues.
- To help students exercise critical thinking and observation of key issues involving risk and benefit.
- To help students connect the carefully considered stewardship of natural resources with their standard of living.
- To help students define their person role, benefits, and responsibility in the stewardship of our environment and its resources.
- To provide an incentive for student exploration of science, technology, and risk management career options.

Phase Three: Visit the Site on the Internet

The third part of the program would be attempting to reach young people directly through the Internet. Again, through The Annapolis Center's Website, the Center would develop a site where middle-school aged young people would be encouraged to visit. A national Technical Advisory Committee would be created to suggest and review the material. This site would be set-up in

such a manner that it would "pop-up" by using a number of key words through various search engines. The site would be interesting and educational in nature.

Program Benefits... A Dynamic Program & Process

- The program provides for easily accessible activities, educator development, integrated measurement and evaluation, dialogue facilitation between "the Experts" and educators and an established vehicle for technology implementation.
- The program emphasizes a process that provides skill building while applying current science findings to ever-developing science research.
- The middle/junior high level is targeted because students at that age are ready to learn, analyze, and discuss the scientific and mathematical concepts – and their implications. It is also an ideal time to reach all students (before high school and specialized science programs) and to interest them in further science education and science careers.
- Although a national program, it will address the various regional issues and meet the state and national science curriculum requirements.

Phase I - Development, Implementation, and Testing of Pilot Materials

Plan of Action

- Choose 5 target States
- Develop 3-4 core teaching units
- Market the site to teachers
- Telemarket teachers to receive feedback
- Adjust program as necessary

Budget \$125,000

Phase II - Go to the States

Plan of Action

- Seek and secure State sponsors
- Create Regional Advisory Committees

Target Audience

The program initially targets teachers, students and parents in the nation's 25,000 middle and junior high schools, grades six through nine, in public and private schools. Middle and junior high school students should be ready to learn, analyze and discuss scientific and mathematical concepts and their implications. This is also an ideal time to reach all students (before high school and specialized science programs) to interest them in further science education and science careers.

2065243843

(where appropriate)

- Market to teachers in States
- Receive feedback, adjust program as necessary

Budget **\$250,000**

Why Is This Program Unique

The *Living With Risk* program will take a leadership role on risk assessment drawing on the Center's members and the *Annapolis Accords* as well as the leading science and education experts serving the Technical Advisory Committee for the program.

Living With Risk will not compete, but rather lead and coordinate existing educational efforts, including:

- U.S. Department of Education "Goals 2000"
- National Academy of Sciences (NAS) "National Science Education Standards"
- American Association for the Advancement of Science "Project 2061"
- National Science Teachers Association's "Scope, Sequence and Coordination"
- Corporate Education Initiatives

The Center will be working closely with the National Science Teachers Association and state school boards to ensure that the program meets national science education guidelines and state science curriculum requirements.

Annapolis Center Board member Bradley Smith, Ph.D., former Director of the Environmental Protection Agency's Environmental Education Office and Dean of Huxley College of Environmental Studies at Western Washington University heads the Center's Education Committee.

Phase III – On the "Net"

Plan of Action

- Develop a Technical Advisory Committee
- Refine The Annapolis Center's Website
- Develop the materials for the site
- Monitor the site's use, adjust as necessary

Budget **\$150,000**

2065243844

The Annapolis Center's Board of Directors

VADM Harold M. Koenig MC USN (Ret.)
Chair and President
Former Surgeon General, U.S. Navy

Hon. S. John Byington
Former Chair, Consumer Products
Safety Commission

Robert Hirsch, Ph.D.
Chair, Energy & Environment
National Academies of Sciences

Mr. Frank Boren
Former Chair and President
Nature Conservancy

Mr. Ford Rowan
Former NBC & PBS journalist

Norman L. Christensen, Ph.D.
Dean, School of the Environment
Duke University

Hon. Harrison H. Schmitt, Ph.D.
Former Chair, The Annapolis Center
Former Apollo Astronaut, Former
U.S. Senator

William E. Cooper, Ph.D.
Institute of Toxicology
Michigan State University

Bradley Smith, Ph.D.
Former Director,
U.S. EPA Education Program

Lois S. Gold, Ph.D.
University of California at Berkeley

Jack W. Snyder, M.D., Ph.D.
Thomas Jefferson University

George Gray, Ph.D.
Harvard Center for Risk Analysis

Mark Utell, M.D.
Member, U.S. EPA Science
Advisory Board

Robert Hahn, Ph.D.
Former Staff,
President's Council of Economic
Advisors

Murray L. Weidenbaum, Ph.D.
Former Chair, President's Council of
Economic Advisors

2065243845