

ENVIRONMENTAL PROTECTION THROUGH EDUCATION

From the Cuyahoga River to the halls of Congress, environmental education is coming into its own as a force for educational reform and environmental conservation



Virginia students assess effects of pollution on the ecology of a stream.^{NSF}

Kids are wading in the Cuyahoga again. Not that the river is much cleaner than the time its oil-polluted surface caught fire, where it flows through Cleveland into Lake Erie. Rather, a unique experiment in environmental education has brought students from elementary school to the master's degree level back to the river most people had abandoned.

With funds from the Environmental Protection Agency, the Office of Environmental Education (OEE) and private local groups, the Cuyahoga Heritage Project is one of a growing number of studies in environmental education designed to get students and teachers out of the classroom and into confrontation with the practical problems of everyday life.

Some of the high-school students that now gingerly wade into the river and its tributaries for samples of scum can remember swimming in clear side streams just a few years ago. And as they learn about the biology and chemistry of the gunk they find in these streams now, they are also inquiring about the social causes and potential cures of the watershed's ills.

But important as it is, a lot more than just the Cuyahoga River is at stake here. Indeed, the issues involved are among the most fundamental of education and democracy—whether or not a generation of concerned and technologically informed citizens can be trained in time to meet the grave challenges of environmental survival that will surely arise within the lifetimes of these concerned students.

Past efforts have failed. The traditional disciplines of science education have long presented the "facts" of ecological fragility and the health hazards of pollution. The encroachment of waste and development on nature has been chronicled by many conservationists, crying from the wilderness. But students were informed, not inspired; above all, they never became involved.

Now, that may change. Environmental education is slowly gaining ground as a spontaneous, grass-roots movement. Federal programs from OEE total only a meager \$2 million—enough at best for coordination and initial encouragement of local programs. Yet, in its first year of operation, 1971, the office received more than 2,000 applications and made grants to 173 separate organizations.

Walter J. Bogan is director of OEE, a branch of HEW's Office of Education. He described to *SCIENCE NEWS* what the organization hopes to accomplish in coming years. "Our place is at the cutting edge of environmental studies," he says, funding demonstration projects, synthesizing knowledge gained



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Nebraska students in an ecology-training project examine grass stalks.



John H. Douglas

Bogan: A place at the cutting edge.

from these efforts and making it available to groups in other communities. By thus encouraging local initiative and then helping spread the word of particular successes, OEE hopes to coordinate the increasing groundswell of community action for environmental protection through education.

The process may also have other effects, Bogan says. By concentrating on practical problems—like a river so filthy it catches fire—projects stimulate interest and need for other kinds of knowledge among the students who participate. By seeing a need for understanding the chemistry of pollution or the biological effects of pesticides, students who have been turning away from science for lack of “relevancy” may now be drawn back.

Bogan sees environmental studies as a particularly good way to draw students from minority groups into science. “There is more a sense on the kids’ part,” he says, “of controlling and participating in their own education”; rather than of having school do something *to* them. A new kind of teacher-student relationship often builds up as both go out to address an external problem together as allies—with the teacher’s role becoming one of “resource person” rather than ultimate authority.

In the Cuyahoga Project, that means “teacher training” sessions are shared with student representatives, who help develop programs along with their instructors. It means having students come into contact with other adults in the community, perhaps for the first time, to work on common problems. Most of all, participation, in Bogan’s sense of the word, means self reliance

—building one’s own air-pollution detector out of an old vacuum cleaner, digging up samples of dirt from one’s own yard to understand its relation to a neighborhood runoff problem.

Projects vary as much as localities do. The school board of Dade County, Florida, (which includes Miami) was awarded \$30,000 this year to help start a Center for Urban Research and Environmental Studies. The Center will complement other environmental studies, already in progress, concerned with the adjacent ocean and Everglades. In Kaneohe, Hawaii, a “mini-grant” of less than \$10,000 will help start a series of training workshops for citizen-involvement committees and community environmental planning groups. University programs for professional environmentalists are being coordinated with the more broadly based environmental studies programs. In the Cuyahoga Heritage Project, Cleveland State University is offering master’s degree credit to some teachers participating.

Unfortunately, environmental studies, and especially OEE, have become a political football. Set up by a companion bill to the Environmental Protection Act of 1970, the very existence of OEE has been consistently opposed by the Administration, which wants to abolish the office altogether. A bill to continue the office has already passed the House, under the guiding care of Rep. John Brademas (D-Ind.). But in the Senate, OEE’s fate rests on the progress of two conflicting bills. One, by Sen. Gaylord Nelson (D-Wis.), complements the already passed House version. The other, Sen. Claiborne Pell’s Elementary and Secondary Education Act, also continues the office,

but supporters of environmental education fear that inclusion in the larger bill endangers their cause. Pell’s act, they say, is almost certain to get bogged down in a protracted, bitter fight over busing. Meanwhile, the Administration has quietly left OEE out of the fiscal 1975 budget.

Unperturbed, Bogan’s staff is setting about trying to find evaluation criteria on which to judge the performance of completed projects. Some valuable results are readily apparent: In Kent, Ohio, city officials bent on determining the location of soil most suitable for construction of a new sewage treatment plant found that much of the necessary information had already been gathered by junior-high-school students working on one of the Cuyahoga Heritage projects. But judging whether or not OEE’s innovative programs have stimulated new student interest in science or whether these students will become the vanguard of a new environmental consciousness may take years to determine.

If such dreams are fulfilled, shock waves could be felt throughout the educational system, as well as throughout those areas of the political establishment that make decisions on environmental issues. OEE is now one of the more obscure agencies of the Government, even overshadowed within the environmental movement by its big brother, EPA. But given a favorable Administration and a few more years of attacking the longer range aspects of an increasingly complex problem, OEE and the educational and social trends it sponsors could become an increasingly powerful force of reform throughout the country. □