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## Interdisciplinary Environmental Education Program for Teachers

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continue in science have had the opportunity to become intimately familiar with the many problems of public education in our free society. They have contributed through their presence in classrooms to making that education more meaningful. They have also had the opportunity to develop communication and teaching skills, and they are all familiar with modern concepts in activity-centered teaching.

The University of Iowa Teacher Education Program is strengthened by the involvement of UPSTEP students and other University and community leaders brought in as part of the UPSTEP program. Currently discussions are being held with representatives from the other twenty-eight colleges in Iowa with teacher education programs. One outcome of these discussions is a plan to establish cooperative centers in Iowa where in-service work with teachers, interaction among staff members from a variety of colleges, and a semester long internship for student teachers from several colleges can be implemented. Iowa-UPSTEP can then be a model for statewide improvement of teacher education.

We are striving for greater communication with ourselves as a staff, with our students, with teachers and administrators in the schools of Iowa, with other teacher educators. We operate from the premise that we are all limited by our past experiences and that we can only grow by trying the new and gaining insight from others. We certainly can not raise our sights and improve our society (and our schools as a microcosm of that society) if we are isolated from one another and if we are satisfied with the status quo.

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**PHYSICS TEACHERS:** The spring meeting of the Iowa section of the American Association of Physics Teachers will be held at Grinnell College on the afternoon of April 28. William Azbell, Secretary-Treasurer, Waverly, Iowa.

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#### INTERDISCIPLINARY ENVIRONMENTAL EDUCATION PROGRAM FOR TEACHERS

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Environmental education offers a unique opportunity for innovative teaching because no one is around to say, "But, I always did it this way." Thus new environmental programs do not have to overcome the educational inertia of tradition which has stopped many new instructional movements dead in their tracks. The science education center at the University of Iowa has seized this opportunity to promote the interdisciplinary study of environmental issues at all grade levels. Uninhibited by the educational folklore of yesteryear, environmental instruction can follow its natural course in a wide variety of academic disciplines. The fact is that only delightfully demented educational taxonomists would place environmental studies in a single subject area. With few people who like to be considered educational taxonomists and even fewer who like to be considered delightfully demented, things can move along at a rapid pace. And so they have, with the development at the University of Iowa of a summer institute and an in-service program, designed to aid teachers in developing instructional materials that will help their students understand the environment.

The summer and in-service programs have the same basic design with slightly different mechanics caused by time factors and the background of the teachers attending. The goal is to have teams of teachers from more than one academic area develop complete interdisciplinary instructional units appropriate to the needs of their students. Hence, the program begins by having the teachers experience a number of awareness activities that can be used to provide them an idea of the environmental knowledge, attitudes, and interests. This is a little like the traditional aptitude tests used to determine the background of students in a particular subject area. Awareness activities are not only concerned with knowledge but also interest levels and attitudes. They are conducted as a learning activity for the student to become sensitive to his environment and what he or she thinks about it. The idea is for teachers to use this information to build environmental instructional units based on the

present knowledge and interests of students. By such a start, new learning can be related to a cohesive meaningful way to the present state of intellectual development of students. This avoids subjecting the young person to a learning experience which is meaningless, misunderstood, and momentary. Such an approach to the selection of teaching materials is foreign to many teachers who have always taught their students what they were told to teach them by administrators and consultants. When students questioned, "What do we have to learn this stuff for?", the planners were not around so most teachers had little to say except, "Because there is no because." Awareness activity is a 'because' that provides the student with his own answer.

A great deal of information has not been gathered on the perception of the environment by students but present experience would indicate that grade school children have a simplistic, positive view of their immediate neighborhood and little else. Not only is their environmental scope limited but the concept of pollution is totally absent. To begin an elementary program with pollution or anything other than the local environment of students is to begin with the unfamiliar--a questionable practice. Junior and senior high school students seem to have a greater awareness of pollution but again the scope is limited to their local surroundings.



Teachers experimented and evaluate activities that may become a part of their work



Teachers also tried and evaluated commercial teaching materials and instructional packages

After selecting a topic for their unit development in light of the awareness activity, the teams of teachers spend some time selecting modes of instruction, breaking the topic down into major study areas, and structuring a unit outline. Here the aim is to have the teachers select the most effective mode of presentation. The idea is not to sell a particular way of teaching but rather to see what methods can provide active student involvement in learning under local circumstances.

Next, a large percentage of the course schedule is spent completing the various parts of the unit outlined by each group. During this period the participants are given existing instructional materials and are helped to develop their own new ideas to synthesize a complete interdisciplinary unit. This will include some type of evaluation. The teachers also receive a wide variety of background information on environmental topics in order to increase the depth and scope of their teaching. Here, each issue is presented as a social and scientific problem. During the final phase of the institute each group implements its unit and evaluates its impact upon the students.

During the summer this program is conducted only for junior and senior high school science and social studies teachers who must attend as a teaching team from one school. For the summer of 1973 this program will be funded by the National Science Foundation and will be conducted from June 4th to July 24th. All fees are covered by NSF funds. In addition,

each participant receives a support stipend and travel allowance. A number of participants will be selected from different areas of Iowa. The deadline for applications was March 15th.

Also, during the 1972-73 academic year two in-service institutes were conducted with the support of NSF. One was held at Prairie High School in Cedar Rapids and the other at Ottumwa High School. These institutes were open to elementary through high school teachers in all subject areas. The result was an atmosphere like that which characterized the one room school when forty participants at each location were involved. Some problems existed because of the diversity of the group but a wide variety of resources were provided that met most teachers needs. In part it also is the broad nature of environmental problems that make such a teacher institute workable. The attempt to accommodate such a diverse group that can justify the expense of sending instructors to a local school for the course. This also means that teachers do not have to travel far for university credit and they are grouped in a manner that makes it easier to meet local needs. Such in-service programs will be expanded by the University of Iowa Science Education Center as a part of Project ASSIST. Course offerings being planned include the above interdisciplinary environmental program, physical and biological oceanography for inland science teachers, and several others. The kinds of programs planned in a given regional center will depend upon the interest and preference of specific regional leaders in specific regional centers throughout the state.

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#### PROJECT ASSIST REGIONAL COORDINATORS

Twenty-four science educators, representing seventeen regional centers throughout the state, have been identified as Regional Coordinators for Project ASSIST. In addition, one educator, who is presently a member of the Instructional Resource Team (IRT) in the Iowa City Community School District, will be involved as well. The names and addresses of these coordinators are as follows:

#### Bettendorf -

Coordinator - Joe R. Moore  
Science Consultant  
Muscatine-Scott County School System  
2604 West Locust Street  
Davenport, Iowa 52801

Assistant Coordinator - Bert A. Murphy  
Pleasant Valley High School  
Pleasant Valley, Iowa 52767

#### Burlington -

Coordinator - Jon P. Frischkorn  
William Slater Elementary School  
705 Maple Street  
Burlington, Iowa 52601

#### Cedar Rapids -

Coordinator - Dean Hartman  
Joint County School System  
4401 Sixth Street, Southwest  
Cedar Rapids, Iowa 52404

Assistant Coordinator - Herbert Brunkhorst  
McKinley Junior High School  
620 10th Street, S.E.  
Cedar Rapids, Iowa 52403

#### Council Bluffs -

Coordinator - Edward Flannery  
Council Bluffs Community Schools  
207 Scott Street  
Council Bluffs, Iowa 51501

#### Creston -

Coordinator - Richard F. Boyer  
Creston Community Schools  
619 North Maple Street  
Creston, Iowa 50801

#### Decorah -

Co-Coordinator - Marvin Cooper  
Secondary Science Chairman  
Decorah Community Schools  
Vernon Street  
Decorah, Iowa 52101

Co-Coordinator - Bruce Willer  
Elementary Science Chairman  
Decorah Community Schools  
Vernon Street  
Decorah, Iowa 52101

#### Ames -

Coordinator - Gerald Dunn  
Ames Community Schools  
120 South Kellogg Street  
Ames, Iowa 50010