

# Raising Questions and Finding Answers: NAAHE's Evaluation Project

by Bill DeRosa

During the past several years, NAAHE has focused a great deal of attention on two themes: (1) the importance of incorporating humane education into the school curriculum and (2) the need for critical, on-going evaluation of humane education methods, materials, and approaches. Late in 1981, we had the opportunity to bring these two themes together within our programming when the decision was made to launch a major research project designed to evaluate a curriculum-blended approach to humane education. After three years of planning, instrument development, testing, and data analysis, the results of the study finally began to come in late last fall. As we anticipated, the findings are mixed and seem to raise as many questions as they provide answers. Although the analysis of the project is still incomplete as we go to press with this issue of HUMAN E EDUCATION, we would like to share some of the findings and project background with you. A complete discussion of the project and its implications will be published later this year as a NAAHE Special Report.

## Project History and Purpose

In order to enlist the expertise needed

to conduct a major research project with national scope, NAAHE contracted in 1982 with the Wasatch Institute for Research and Evaluation (WIRE), a group of consultants in educational research recommended to us by the National Institute of Education. With assistance from NAAHE and Dr. Carol Browning of The Humane Society of the United States Board of Directors, the WIRE staff designed a project that would measure the impact of a curriculum-blended approach to humane education, using NAAHE's *People & Animals: A Humane Education Curriculum Guide* as the prototype material for this approach. The guide, which consists of more than 400 activities, is divided into four books, each covering two grade levels ranging from preschool through grade six. Each activity within the guide is designed to teach a humane concept while at the same time teaching a skill or element of content in language arts, social studies, math, or science. Although the guide had been field-tested in 350 classrooms and was rated very highly among teachers, it had not yet been used in a project that evaluated its impact on students.

The study designed by WIRE focused on four objectives. First, we wanted to

▲ Elementary students in Durham, Connecticut, display the products of their humane education lessons. Teachers involved in the evaluation project were asked to complete twenty activities from *People & Animals: A Humane Education Curriculum Guide* over the course of the 1983-84 school year.

examine the impact of the curriculum guide activities on children's knowledge about and attitudes and behavior toward animals. Next, we wanted to determine if children responded differently based on certain variables such as age, sex, place of residence, prior experience with animals, teacher attitudes, etc. We also planned to test for *transference*, that is, to see if children who developed more humane attitudes and behaviors toward animals also became more humane in their feelings and actions toward other children.

The final objective of the project was to develop a series of reliable instruments (tests) that could be used to measure the impact not only of *People & Animals* but also of a variety of humane education programs. Part of the problem in stressing the need for evaluation has been the lack of reliable instruments, especially for measuring attitudes and behavior. We hoped that by developing versatile



— Vicki Parker



— HSUS/Fosters Photography

◀ Blaine Worthen, project director of WIRE, and NAAHE Director Kathy Savesky presented the history and initial results of NAAHE's Evaluation Project at The HSUS Annual Conference last fall in San Diego.

were to serve in a control capacity (their classes would be tested but would receive no instruction from the guide) only the teachers serving in an experimental capacity (those who would actually use the guide) attended these workshops. Their training consisted of an hour-long session during which the curriculum guide was introduced and briefly described. During the sessions, teachers were asked to keep diaries of the activities they completed over the course of the year and to record the time spent on each activity.

The realistic evaluation approach was also reflected in the composition of the study sample. The sample, which included more than 1,800 kindergarten through sixth-grade students, was distributed representatively among rural, suburban, and urban areas of California and Connecticut. The ethnic composition of the group, though predominantly Caucasian, included high percentages of black, Hispanic, and oriental children as well. Socioeconomically, the sample was also quite varied. It consisted of mostly middle-class students but had ample representation from low, lower-middle, and upper-middle categories.

## Testing

In order to meet the objectives of the project, tests were needed that would measure four things: (1) children's knowledge about animals, (2) children's attitudes toward animals, (3) humaneness exhibited by children toward animals, (4) the transfer or generalization to other humans of children's attitudes toward animals. We also needed instruments to survey teacher and parent attitudes and to record background information about the children's age, sex, ethnic background, socioeconomic status, place of residence, and prior contact with animals.

The battery of test instruments developed by WIRE consisted of the following: (1) a pupil questionnaire designed to assess students' previous exposure to animals, e.g., pets, farm animals, zoo and shelter animals; (2) a Concept Mastery Test (CMT) to determine children's knowledge of animal-related concepts and terms; (3) an Attitude Scale

instruments and making these available to other educators and animal welfare groups, humane educators would be more willing to incorporate evaluation into their own programs.

In the spring of 1982, Phase I of the project—the development of the testing instruments—was begun, using teachers and students in the Logan, Ogden, and Weber county school systems in northern Utah. The tests were completed in late summer of the same year, and plans were made to begin Phase II—testing and use of the guide—in Utah in the fall. Unfortunately, however, public controversy by the Utah Farm Bureau concerning the curriculum guide forced a temporary suspension of the project. New schools were recruited in California and Connecticut, and Phase II was begun.

## Project Design and Methodology

Perhaps our foremost concern in designing the evaluation project was to ensure that it be realistic. Many evaluations of educational techniques and materials take place under highly controlled conditions in which students are force-fed materials in intensive doses. It was our desire, however, to evaluate a curriculum-blended approach, using the

NAAHE curriculum guide, under natural conditions—conditions in which teachers would be able to use the guides more or less as they wished. Under the WIRE plan, teachers were required to do only twenty activities from the guide (fifteen specified and five of their own choosing) over the entire 1983-84 school year. In research terminology this constituted a "thin intervention," or "weak treatment," a factor that usually makes producing recognizable changes in knowledge, attitudes, and projected behavior difficult. But since our objective was not to prove that our approach and materials worked but to find out how they worked, it made sense to evaluate them as they might be applied during a typical school year by teachers with many other curriculum requirements to meet.

This realistic approach was also reflected in other aspects of the project design and methodology. Since it is likely that most teachers who use humane education materials receive little instruction on how to use them, we decided to keep training to a minimum. The seventy-seven teachers who participated were selected on a volunteer basis from school districts in Connecticut and California. Since half the teachers



In order to test how children might behave around animals, students were asked to respond to a series of hypothetical situations like the one pictured here.

(AS) aimed at gauging students' attitudes toward animals and animal welfare issues; (4) a Situational Test of Humane Responses (SIT), which presented child-animal conflicts or dilemmas described in either picture or story form; (5) an Attitude Transfer Scale (ATS) developed to measure child-to-child compassion and kindness; (6) a Modified Aggression Scale (AG), which presented children with several everyday social dilemmas and asked the students what they would do in each case; and (7) a survey to measure humane attitudes of the students' parents and teachers. Several different versions or levels of the tests were developed in order to accommodate the various grades being tested.

The test instruments were administered within the context of a pretest-post test-control-experimental research design. All students were first given the tests in the fall of 1983 prior to any exposure to the activities in the curriculum guide. Following this pretest, students in the experimental group received the treatment, i.e., humane education instruction from the guide, while students in the control group received no humane education instruction except that which was already a part of the teachers' normal lesson plans. Then in the spring of 1984, all students were post tested using the same battery of instruments used in the

pretest. Both the pretests and post tests were administered by independent volunteers who were not informed of the project rationale and design in order to ensure against bias.

#### Results and Implications

At this time, only a portion of the findings from the project have been analyzed, and the results are mixed. The scores of the Concept Mastery Test indicated mixed results depending on grade level. At the kindergarten level, students in the experimental group scored significantly higher on the CMT, that is, they demonstrated a greater knowledge of animal concepts and terms than students in the control group. The same was true at the first-grade level. Students in the experimental group at the second-through sixth-grade levels also performed better on the CMT than their counterparts in the control group, but this difference was not statistically significant. This means that although the experimental group's scores were higher than those of the control group, the probability that this was due to chance (as opposed to the treatment) was greater than 5 in 100.

The results of the Attitude Scale were similar to those of the CMT. The attitudes of kindergarten and first-grade children in the experimental group were shown to be significantly more humane

than the attitudes of the kindergarten and first-grade students in the control group. At the second- through sixth-grade levels, experimental group children displayed more humane attitudes following the treatment than the control group children who did not receive the treatment, but once again this result was not statistically significant. The attitude tests also showed that at the third- through sixth-grade levels, girls generally displayed more humane attitudes than did boys.

In the Situational Test of Humane Responses, children were asked what they would do in certain situations, and their responses were rated on a five-point scale representing degrees of humaneness. The scores of the SIT indicated that kindergarten children were less humane in their responses to situations involving child-animal dilemmas than were first-, second-, and third-grade children. The kindergarten, first-, and third-grade children in the experimental group displayed more humane responses than their counterparts in the control group, but the difference was not statistically significant. At the higher grade levels, children in the experimental group displayed significantly more humane responses than children in the control classrooms.

The next two instruments, the Attitude Transfer Scale and the Modified Aggression Scale, were "generalization" measures to determine if children's attitudes and projected behavior toward animals would generalize or transfer to other children.

On the Attitude Transfer Scale, which assessed children's kindness and compassion toward other children, experimental group children at all grade levels demonstrated positive changes from pretest to post test, while the students in the control group exhibited little or no improvement. Here again, however, the improvement shown by the experimental group was not marked enough to be statistically significant.

Finally, the results of the Modified Aggression Scale surprisingly indicated that the students who had received instruction from the guide scored *more* aggressively than did the students in the control group. Boys also scored more aggressively than did girls.

Within the next few months, NAAHE and the WIRE research team will be analyzing the remaining data from the

evaluation project. The impact of variables such as sex, place of residence, parent and teacher attitudes, and prior experience with animals has yet to be identified. In addition, an internal analysis of results of specific test items has yet to be done. Further results may shed light on or contradict some of the preliminary findings.

Despite the mixed and somewhat limited early results, however, there is good reason to be encouraged by the study. True, the use of the curriculum guide did not produce statistically significant results on every test at every grade level. But this is not as disappointing as it sounds if we remember that the twenty activities from the guide taught by the experimental group teachers constituted a very thin intervention, or weak treatment. Numerous evaluation studies in which curriculum materials were used every day for an entire school year have failed to show significant changes in learner outcomes. In this context it is encouraging that the curriculum guide activities and approach had such a significant effect on knowledge, attitudes, and projected behavior at the kindergarten and first-grade levels and a lesser but nonetheless positive impact at the grade levels beyond. Moreover, it appears from the preliminary data that there is a clear trend toward an increase in positive test results as the time spent by teachers on each activity increases.

If the existing trends are reinforced, the findings may suggest some kind of special significance for humane education at the early grades. However, pioneer research projects such as this can only point to trends; the *whys* must be looked at in future studies. Are young children more receptive to humane education? Is this an age in which natural developmental factors that enable children to recognize the needs of others are growing rapidly anyway? Are early childhood teachers better equipped for or more accustomed to teaching styles that promote pro-social or humane behavior? Would more intensive use of activities or more teacher training result in greater improvement among students? Is there a relationship between humane attitudes in children and their general level of aggression? Are the activities at upper levels of the curriculum guide in some way less appropriate for the developmental level of the students than those at the lower levels? These and other



Vicki Parker

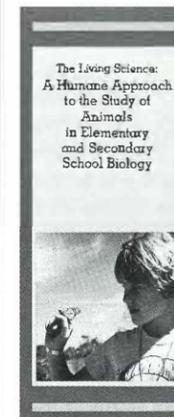
Melinda Haddad, fifth grade teacher at Hill Central School in New Haven, Connecticut, assists her students during a humane education lesson. Many of the teachers in the project, while unfamiliar with humane education at the outset, showed a strong interest in humane education programs and teaching materials as a result of their involvement in the evaluation.

questions remain to be answered. NAAHE has plans to continue its work in trying to determine the most effective humane education methods and strategies. Although this project is only a first step, it provides us with the largest body of knowledge to date on children's knowledge of and attitudes toward animals and the impact of humane education on that knowledge and those attitudes. We believe

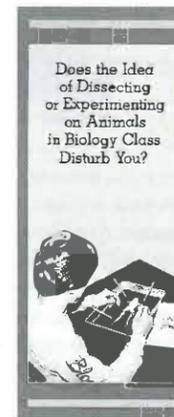
that the implications of the project for humane educators and researchers will be far-reaching in terms of the future direction of both humane education programming and evaluation. ♥

For more information about NAAHE's Humane Education Evaluation Project, contact Bill DeRosa, NAAHE Research Associate, Box 362, East Haddam, CT 06423.

**You can teach about animals without harming them...  
by following the guidelines presented in NAAHE's new biology brochure  
for science teachers.**



Rejecting the need for dissection and invasive experiments on animals in the classroom, the brochure offers resources for alternative lessons and teaching materials. One side of the brochure opens to provide an attractive poster of recommendations for the study of animals in biology classes. A companion brochure for students who are ethically opposed to dissecting or experimenting on animals is also available. Ask for the teacher's biology brochure or the student's biology brochure. One copy of each is available on request. Please send a self-addressed, stamped envelope. Quantity prices are as follows:  
50 copies \$4 100 copies \$7 500 copies \$25



Write to:  
NAAHE, Box 362, East Haddam, CT 06423