

Perceptions of science teachers and classes

A nationwide survey of high-school juniors and seniors reveals that the teaching style, personality and learning environment created by science teachers will greatly influence their students' achievements in class.

The authors of the survey are educational researchers Anthony Petrosky and Charles R. Cooper of State University of New York in Buffalo. Students were asked to write four essays about their teachers, teaching and their schools. Altogether, Cooper and Petrosky received 6,200 essays from 18 high schools. Neither researchers claim that the sample is random or stratified, but they believe it is representative enough to permit generalizations.

The basic and most crucial element in classroom life is the personal relationship between the teacher and the student, report Cooper and Petrosky in the February issue of *THE SCIENCE TEACHER*. The teacher should "really try to teach," not "just feed fact," to quote one student.

The personal traits of science teachers most valued are informality, personal warmth, fairness, dedication and demonstrated concern for each student.

"Science as a subject or as a field of study and inquiry has great inherent interest (very few students expressed dislike for science)," comments Cooper and Petrosky "but it can only be made to seem attractive as a required classroom subject for groups of 30 or so students when it is taught with great energy and enthusiasm. . . ."

The students perceived lab work to be relevant and enjoy the independence and responsibility it gives them.

And finally, the students felt that teachers should regularly discuss in class the moral, political and personal issues implied by the developments in the science taught.

Getting around grades

The pass/fail grading system in use in many colleges throughout the country has not been as successful a system as many administrators hoped. A survey conducted by the American Educational Council found that it made transfer and graduate school admission more difficult, and therefore concluded that unconventional grading systems are self-defeating (*SN*: 12/1/73, p. 346). But Paul Corneil of the University of Redlands in California reports that Johnson College (the experimenting cluster unit of the University of Redlands) has been employing an alternative grading system that has proven to be quite acceptable to other universities. Teachers write out an evaluation of each student in each class, and at graduation the student's advisor writes a final one-page precis of the student's undergraduate work.

"In the summer of 1971, we surveyed 120 institutions by letter and phone to determine their willingness to accept our transcripts for undergraduate transfers or graduate admission," Corneil told *SCIENCE NEWS*. "Ninety-nine responded and 90 of these indicated their willingness to accept our transcripts without grade or unit translation while they noted that the precis was especially important for quick review."

Successful technician-training program

Project Mercury is a six-month program sponsored by the American Chemical Society (ACS) that trains black inner city residents to become chemical technicians. After graduating two semesters of technicians, the program has been deemed so successful in reaching and motivating inner

city residents for employment that the state university system of New York has taken over its operation.

The course consists of rigorous classroom work in general chemistry, math, organic chemistry, instrumental analysis, qualitative and quantitative analysis, general science, English composition and research. A week of on-the-job training in an industrial laboratory is arranged through the members of the Eastern New York Section of the ACS.

Students in the program were generally disadvantaged both educationally and economically. Seventy-five percent of the male students graduated last June (a class of 46) had no prior work experience, and other students had previous experience in such occupations as machinists, counter girls, porters, chauffeurs and cooks. At present, two graduates from the June class are enrolled full-time in college, and 15 have found jobs in industry.

Germans seek American education

Five hundred German students will study at American colleges and universities in the fall of 1975 under a plan announced last year—the Student Exchange Program (STEP)—aimed at remedying overcrowding at West German universities and filling vacancies in U.S. schools. The pilot program will be administered by Georgetown University in Washington and funded mainly in West Germany. The students will begin studies as sophomores and work for their master's degree at public and private colleges in Missouri, Michigan, Washington, Texas and Washington, D.C. They will study in all major disciplines except premedical and pre dental, areas already crowded in U.S. schools. If the trial proves to be successful as many as 50,000 German students might come to the United States under STEP.

Psychology goes to high school

Almost 500,000 high-school students (a conservative estimate) are presently enrolled in psychology and human behavior courses. But less than half of the 10,000 teachers giving the courses have an undergraduate major in psychology. In addition, says John K. Bare of Carleton College in Northfield, Minn., "an adequate variety of material does not exist for teaching about human behavior at the high-school level."

To help change this situation, the National Science Foundation has awarded a \$152,000 grant to the American Psychological Association for the development of a Human Behavior Curriculum Project that will be located at Carleton College. The grant is for one year, but project directors hope to receive NSF funding for a five-year program. During that time the project will develop 30 self-contained teaching units or modules containing teacher's manuals, student booklets, filmstrips and other necessary material. The modules will be used in classes teaching psychology, biology, anthropology, sociology, social problems, sex education and drug education. Thirty units, each lasting two to three weeks, will be developed. From these, teachers will be able to choose whatever fits into a specific situation. "Not a pre-college program," explains Bare, "the project is designed to illustrate a variety of topics in human behavior for the average high-school student." Before the modules are put into commercial production and dissemination, they will be tested and evaluated locally and nationally.