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Continued N.S.F. Support for Summer Institute at the University of Iowa

physics and chemistry programs. Subject matter and methodology are combined by utilizing a great deal of peer teaching during the first two years. This peer instruction is in the form of "pre" and "post" lab discussions, problem solving at the board, "lecture-demonstrations," and cleverly designed questions that require individual laboratory investigations and reports. The division between chemistry and physics is greatly reduced and the courses are physical science courses rather than "chemistry" or "physics."

The following is a brief outline of some of the subject matter content taught or planned for the first three years of the PSG program.

Semester 1. (College version of IPS)
A study of basic properties of matter leading to the establishment of the elements of an atomic model.

Semester 2. (College version of PSII)
A continuation of the first semester dealing primarily with the connection between electric charge and atoms and leading to the study of various forms of energy.

Semesters 3 and 4. (Two separate courses)
The kinematics of waves and the dynamics of particles (including charged ones), a continuation of the study of electricity to include AC circuits, and a very intensive study of chemical equilibrium are the main features of these sophomore courses. Chemical kinetics, functional group chemistry related to structure, and electrochemical processes are included.

Semesters 5 and 6.
This two semester course will be used to tie together microscopic properties and atomic properties. On the static side this includes a correlation of properties such as electric and magnetic constants, index of refraction and heat of sublimation, and energy levels and interatomic potentials. On the dynamic side, a study of chemical and nuclear reactions from both the thermodynamical and statistical points of view will be made.

The senior year, which includes student teaching, will have a course dealing with theory and problems in modern chemistry/physics.

One of the most important features of this pilot program is the inclusion of specially designed ancillary courses in English, mathematics, and manual arts. The correlation between the physical sciences and the content of the mathematics package has been particularly successful. The shop course includes basic woodwork, electronics, and glassblowing and a project mode of instruction is featured. The making of PSII equipment stands, IPS cube and slab sets, and PSSC momentum carts are typical projects.

Although it is too early to classify our program as a "success," some favorable results are obvious. Our sophomores appear to be exceptionally optimistic, extroverted, and industrious - all excellent traits to have in a teacher. We have had a 300% increase in the number of students electing to major in secondary education with a physical science major and our students do our recruiting for us. The fact that the five members of our department who have been involved in teaching the courses so far are unanimous in their conviction that these students "really understand the major concepts of science," is certainly an indication of "success."

CONTINUED N.S.F. SUPPORT FOR SUMMER INSTITUTE AT THE UNIVERSITY OF IOWA

Word has been received from the National Science Foundation that the Interdisciplinary Environmental Studies Summer Institute has been funded for another year. Two previous environmental summer institutes have been conducted by the Science Education Center. Brochures and applications will be ready for distribution to prospective participants early in the spring of 1973. More information regarding the institute will be included in the February issue of ISTJ.

JOURNAL ARTICLES WELCOMED

Iowa science teachers are requested to submit teaching tips, notices of events, or anything that would be of interest to other science educators. Please submit articles to the ISTJ editorial staff.

(Ed)
