

Four Years of the Physical Science Survey Course— An Appraisal

Nicholas D. Cheronis and Henrietta Freud

Wright Junior College, Chicago, Illinois

AN ABSTRACT

During the summer of 1934, the three municipal junior colleges of Chicago were established with a primary objective of "developing in all students social intelligence, responsibility, and personal culture by means of a well-organized program of general education", and with secondary objectives of supplying pre-professional or semi-professional training for such students as desired it. In order to accomplish the first aim, the curriculum requires all students to take five survey courses, occupying about half of their time, with the other half devoted to courses in the fields of the student's major interest.

One of these survey courses is in physical science, which covers the fields of physics, chemistry, astronomy, and geology, with especial emphasis on the first two. The aims of this course are:

To make the student more familiar with his physical environment;

To give the student an appreciation of the scientific method;

To develop a point of view and a philosophy concerning natural phenomena; and

To lay the foundation for possible future work in the Physical Sciences.

In organizing the course, these objectives were interpreted as implying primary emphasis on the development of understanding and appreciation of the principles of science rather than of its technological aspects. The course is presented by the lecture-demonstration method to large groups (in some cases slightly over 300), in three lectures and one quiz period a week. A syllabus was developed by a committee of the three colleges and put into the hands of the students. No single text-book has been adopted; the students are asked to purchase college chemistry and physics texts and to do a great deal of reading in the library.

Since that time some 5,000 students have taken the course at Wright Junior College. In practice it has by no means proved entirely satisfactory either to students or to the faculty. The subject matter has been revised several times, and is in process of radical revision at present. Such changes are based not only on the opinions of the instructors giving the course, but also to a considerable extent on the opinions of the students, who have been asked at the end of each semester to fill out questionnaires and to make suggestions. The general trend of the revisions has been in the direction of eliminating details and of concentrating attention on the relatively few principles which are felt to be of really paramount importance.

The present revision will be especially drastic for several reasons. In the first place, it is felt that certain of the objectives are not wisely chosen, in particular that of preparing students for future work in science. Secondly, those aims which are considered valid are too vaguely stated; interpretation in more specific terms is felt to be necessary. Detailed criteria for the selection of subject matter are being drawn up, and their application will, it is hoped, result in the elimination of more detail of little value to the student who is seeking general education. Third, it is believed that too little emphasis has been laid on the impact of science and invention upon society, and on the minor applications of science which recur again and again in the student's daily life.

The new course developed on these lines will of necessity be very different from the old. To find what the results of the application of these ideas will be is matter for experimentation; upon those results it will doubtless be necessary to rebuild the course again and again.