

THE FUTURE OF CHEMISTRY AS A SPECIALIZED SCIENCE IN THE HIGH SCHOOL CURRICULUM

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Chemistry has enjoyed a steady increase in enrollment since it was first introduced into the high school curriculum, but note should be taken that the per cent¹ of the high school population enrolled in the course is gradually decreasing. Why has this taken place in an age which is so filled with scientific research and development? Some recent trends that are taking place in the secondary schools may throw some light on the situation.

Formerly the high school curriculum emphasized preparation for college, today the emphasis is on meeting the needs of boys and girls in order more nearly to prepare them for the future. Evidently the college preparatory chemistry is not adequately meeting the needs of many high school students. Because of this there has been organized in the high school numerous kinds of chemistry courses, and courses in combined physical science have been introduced. The data given by² Fred G. Anibal and Philip A. Leighton may offer some evidence why courses in traditional chemistry and physics are not deemed altogether necessary for college. "Out of each 100 students graduating from high school, about 35 enter institutions of higher learning; of these 35, fewer than ten will elect to specialize in professional fields that require chemistry and physics, and of these ten only two will graduate in these fields."

An effort to reorganize the chemistry course so that it will more nearly meet the needs of the students has resulted in the revision and the writing of some entirely new books in the field. Examination of some of these books shows new trends in organization of subject matter around major generalizations in order to accomplish new outcomes which are stated in terms of needs of students. The adoption of any of these new books does not guarantee that a different kind of chemistry will be taught. The chemistry offered in any school will not be any

better than the teacher teaching it. The new text books are a product of the thinking of the authors and if these books are to be effectively used, the teachers must undergo in a measure the same thinking in order to get, and likewise put over to the students, the correct point of view. This then becomes a problem not of text book adoption but teacher education.

Another change resulting from recent trends is the organization of a continuous science program from grades one through twelve. Such a program calls for elementary science instruction for grades one through six, a three year general science program for grades seven, eight, and nine, biology for the tenth grade, combined physical science, chemistry or physics for grades eleven and twelve. The election of a specialized science will be optional at the beginning of the eleventh year in this program. This science sequence will postpone or eliminate specialization in any specific field.

Information gained from book companies and State Departments of Education indicates that combined physical science courses are gaining adoption slowly and steadily. If these courses were accepted as college entrance requirements in science their adoption would gain considerable momentum throughout the United States.

Have not the changes been brought about because the traditional offerings have not fully met the needs of high school students? In the face of this I can see only a slim and selective future for chemistry as a *specialized* science in the high school curriculum. The educators in the field of chemistry who do not wish to see the enrollment decrease as it has in some of the other sciences are definitely charged with the obligation of offering a kind of chemistry that is not directed solely toward college preparation but directed to do the most possible good for the students who will not go to college.

¹ Biennial Survey of Education, U. S. Dept. of Interior, Office of Education, Volume II: 1934-1936, page 20.

² Anibal, Fred G. and Leighton, Philip A. "A Plan to Eliminate the Overlapping in High School and College Science Courses." *Journal of Chemical Education*, 13: September, 1936, pp. 437-442.