

**Stony Brook University
The Graduate School**

Doctoral Defense Announcement

Abstract

The Historical Development of Chemistry Regents Examinations in New York State

By

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The aim of this study was to investigate the influence of the development of the Regents chemistry examination and course on the teaching of secondary school chemistry in the United States. The study explores how chemistry was taught from the early nineteenth century in New York schools and highlights the role that the Regents chemistry course played in shaping secondary school chemistry courses in general. When chemistry was first taught in schools it was considered to be an obscure and unimportant branch of natural science, overshadowed by its roots in alchemy and was viewed as inferior to the more highly regarded classics. During the first three-quarters of the nineteenth century, chemistry was introduced into schools, but was largely practical and superficial. Textbooks were the primary source for the curriculum and courses were short and usually offered in junior or senior year, before physics. Overall, the courses were unstandardized, lacked rigor and were considered to be of low status.

The development of the Regents examinations in New York at the end of the nineteenth century marked a pivotal change in chemistry teaching. Through the analysis of primary historical sources including qualitative and quantitative data, six major themes emerged concerning the changes to chemistry instruction during this time: 1) chemistry evolved from a low status to a highly regarded course; 2) chemistry changed from an unstandardized to a standardized course; 3) the Regents exams created a connection between secondary chemistry education and college level chemistry education; 4) laboratory work developed as a core component of chemistry courses; 5) the course developed from a short course to a standardized one-year, one credit course; 6) Regents syllabi replaced textbooks as the primary source of course content. While not widely recognized, the development of the Regents chemistry examination heavily influenced the standardization movement that resulted from major national education committees that were meeting at the end of the nineteenth century. These themes reveal that the Regents exams were an influential factor in shaping chemistry course into its modern-day form.

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