

**A STUDY OF THE STATUS
OF EARTH SCIENCE
AND
EARTH SCIENCE TEACHERS
IN KANSAS SECONDARY SCHOOLS
1970-71**

by

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CHAPTER I

INTRODUCTION

Earth science is rapidly rising to the status of biology, chemistry, and physics to become the fourth basic science subject in the secondary level education. This addition to the science curriculum can be attributed to several influencing factors.

Causes for Change

Sputnik I and related events caused a great deal of activity in science education. The passing of The National Defense Education Act of 1958--Public Law 85-864--, the Amendments of 1964--Public Law 88-665--, and the Elementary and Secondary Education Act of 1965--Public Law 89-10--, have provided billions of dollars to strengthen education in general and science in particular. This money became available at a time when professional educators were responding to the sudden and rudely imposed responsibility to educate for life and the space age. (Casey, 1)

Elementary schools are now teaching science concepts that were once reserved for general science course at the secondary level. This is one of the reasons the traditional general science course is looked upon as having little value in today's schools where emphasis is being placed on creative investigations and student initiative. This rejection of general science has lead to the recognition of the potential of the earth sciences to provide a laboratory-oriented interdisciplinary approach to learning.

Reasons for the rapid increase include a general dissatisfaction with general science; an appreciation of the earth as an entity (fostered in part by the spectacular photographs from the space program); public realization that solution of current environmental problems requires a broad understanding of earth science; recognition of earth science as both an effective terminal science program for future citizens and a sound basic frame of reference for children who will study more science. One might almost say it represents a fourth "R"--that shibboleth of the '60's, Relevance. (Weitz, 15:1)

Dissatisfaction of the traditional eighth and ninth grade general science courses caused an awakening of the need for a more meaningful science approach at this level. Federal laws and interested groups, such as the Ford and Carnegie Foundations, provided the means for developing better courses, and educational studies provided the guidance in developing and initiating acceptance of the work.

Rate of Change

The speed at which earth science is being adopted into the secondary curriculum can be indicated by several studies. In 1963-64 there were 60 earth science teachers in Ohio. (Skinner, 13:113) By 1966-67 the number of teachers had increased to 170. (Schappell and Mayer, 10:8) The 1968-69 school year increased the number of earth science teachers in Ohio to over 600. (Skinner, 14:8)

The Pennsylvania Department of Instruction instituted a statewide program of earth science education in 1958, and by 1962-63 the program had expanded from an original nine schools, teaching 800 ninth graders to 550 schools offering earth science courses to 68,431. (Hubbard, 2:26)

The percent of ninth grade students taking earth science in the nation in 1968-69 approached 33%. (Weitz, 15:2) When we recognize