



Whatever Happened to Interdisciplinary Education?

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Interdisciplinary education—What is it? Why is it? And, in an age when knowledge boundaries are crumbling, is it alive and well today?

This paper is written not as an elegy to a dead movement, but as testimony to a lively one. Three questions are considered: (a) Why interdisciplinary education? (b) What is its history? (c) Where does it stand today? Finally, implications and recommendations are set forth.

Why Interdisciplinary Education?

Education can be understood as a subset of knowledge in general. Two developments in knowledge-producing fields with potential application to interdisciplinary education are Piaget's genetic epistemology and general systems theory. Despite Piaget's insistence that interdisciplinarity is a condition of the growth of knowledge (Piaget, 1970/1973), his work has been used mainly to bring monodisciplinary instruction into harmony

with stages of child development. Swensen (1975) suggests an application of Piaget's work to the design of interdisciplinary curriculum.

General systems theory is the culmination of a movement that has turned scientific attention from single entities to systems of interacting units. This new synthesis generalizes qualities and relations that are true of all systems. Boulding (1968) argues for:

a general systems approach to education. . . . I think of general systems not so much as a body of doctrine as a way of looking at things which permits the perception of the world as a totality and fosters communication among the specialized disciplines (p. 1).

In the realms of scholarship and practical affairs there is a growing trend toward interdisciplinarity (Apostel, 1972; U.S. Government

Printing Office, 1970). Not only is more known in each field today, but under the pressure of increased data, disciplines combine, and new ones, for example, biophysics, arise faster than ever before. Disciplinary boundaries are temporary and penetrable. Knowledge today is unstable in the sense that it is undergoing an accelerated rate of change. In order to feel at home on our planet, every person needs to understand the process by which new syntheses resolve crises in knowledge. Such syntheses cannot be reflected in a compartmentalized curriculum.

What Is Its History?

Interdisciplinary education has developed in close relationship to other aspects of society. In our Colonial era:

There was really only one subject, Latin, so handled that it looks in some ways like an integrated curriculum around the single theme of language study (Krug, 1960, p. 24).

This synoptic curriculum was intended chiefly for future leaders. By the end of the nineteenth century, when the principle of universal public education had taken hold, subject organization was firmly established at all levels (Rugg, 1941, pp. 332-33), paralleling division of labor and efficiency studies in industry. High school curriculum and schedules were structured to fit neatly into college entrance requirements. The resulting organization of the typical American high school into about a dozen departments remains virtually unchanged to this day (Krug, 1960, p. 544).

Efforts to alter rigid modes of organization took two forms, one involving changes within the subject structure, the other requiring new structures. The first form consisted of combining related fields into a single subject, called fusion or broad field. This form is familiar in such subjects as problems of democracy, health and physical education, language arts, and social studies (Smith, Stanley, and Shores, 1957, p. 257). What appeared to be an interdisciplinary approach at the moment when the separate areas of reading, writing, literature, and grammar were being combined later became an accepted conventional subject, language arts. Thus a covert, limited kind of interdisciplinarity has flourished in the mainstream.

The second change, calling for new structures, had its roots in the work of Ziller, who advocated the concentration of all subjects on one theme (Smith *et al.*, 1957, p. 252). In the Laboratory School for elementary grades, opened by the Deweys at the University of Chicago in 1896, the area of concentration was the study of occupations (Dewey, 1900/1963).

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This overt form of interdisciplinarity met greater resistance, for it upset fundamental structures at every educational level. Accounts of elementary curriculum usually stress subject categories (Goodlad and Anderson, 1959/1963). However, the elementary school has been amenable to integrative methods. Children traditionally spent the whole day with one teacher; materials and subjects could be combined in space and time. Interdisciplinary approaches such as activities programs, the open classroom, and projects have spread through the lower grades (Burden and McAulay, 1971; Cremin, 1961/1964), as have many new organizing themes, for example, ecology and moral development (Wynn, De Young, and Wynn, 1977).

In contrast, the tight schedules and fixed boundaries of high school have been more resistant to change (Rugg and Shumaker, 1928/1969). But high unemployment rates during the 1930s caused the Progressive Education Association and others to focus on adolescents. Some felt that the subject structure, however broad, hindered the interdisciplinary thinking and action needed to understand the crises of that era.

Core curriculum, the response to this dissatisfaction, took a quantum leap beyond broad fields to a structure that disregarded subject boundaries and drew upon diverse forms of knowledge. Moreover, it treated the problems of youth as an essential part of curriculum (Louns-

bury and Vars, 1978). The 1930s saw an expansion of core programs. Paralleling, and often included in them, was the thematic approach (Billings, in Rugg, 1941).

The Eight-Year Study concluded that graduates of core and other experimental programs did as well as and sometimes better than their conventionally prepared classmates (Rugg, 1947). But these findings were powerless to stem the well-documented countertrend of the 1940s and 1950s to restore narrow subject limits.

This countertrend was a reaction to the fact that interdisciplinary education is not only a way of knowing, but may also be a critical attitude. Because core programs emphasized inquiry, they conflicted with Cold War limits on free speech. The dominant American response to Sputnik was an intensified attack on interdisciplinary methods. The Daughters of the American Revolution found fusion unpatriotic and unsound:

prevent(ing) the students from acquiring a clear concept of national boundaries or of the great and cumulative differences of one civilization over another (*Textbook Study, 1958-59, n.d., p. 5*).

The chauvinism implicit in the statement above did not remain unchallenged. Struggles for human rights of blacks, Hispanics, the poor, and the young—which marked the 1950s and 1960s—had an epistemological element. Youth:

are deeply concerned about problems of war, race relations, . . . etc. They tend to feel that school does not speak to these concerns, that learning is organized in conventional subject matter boxes that may or may not touch on significant problems (Task Force on High School Redesign, 1971, p. 6).

Demands for ethnic and area studies, which are interdisciplinary, show the relation of a structure of knowledge to social issues. Another response to unrest was the establishment of alternative schools, which often used interdisciplinary approaches.

The pressure of events also produced Federal funding for such interdisciplinary programs as humanities and problem-solving. Meanwhile, leaders of the Curriculum Laboratory, founded in 1965 at Goldsmiths' College, London, were developing the Fourfold Curriculum, the best known aspect of which is Interdisciplinary Enquiry and Making, or IDE/M (James, 1972; Mason, 1973; Smith, 1978). A study sponsored

by the Organisation for Economic Co-operation and Development surveyed interdisciplinary higher education in 12 countries (Apostel, 1972).

In this country, state departments of education in California and New York have produced interdisciplinary humanities curriculum materials, and Ohio has developed certification requirements for humanities teachers. Currently the National Association for Core Curriculum disseminates information on core practices and has expanded its scope to include "Humanities, Combined Studies, and other Block-Time Programs" (*The Core Teacher, Fall 1977, p. 1*).

In short, over the past century interdisciplinary programs have multiplied at every level of education.

Where Does It Stand Today?

Interdisciplinary education is very much alive. In the covert form of broad fields it retains wide institutional support, and overt forms are appearing with accelerated number and variety. In contrast to the 1940s and 1950s, interdisciplinarity today is seen by nations and organizations throughout the political spectrum as a weapon for survival (Apostel, 1972; *General Systems, 1956-1976*; U.S. Government Printing Office, 1970). This approach was once available only in a few research projects on the frontiers of knowledge and in scattered elementary and secondary schools. Today, though far from dominant, it is being ever more widely practiced.

Unfortunately, teacher education, with the exceptions noted earlier, remained unprepared for interdisciplinary proposals. As a result, the successes of many interdisciplinary programs depend on the *ad hoc* inventions of imaginative and dedicated teachers, who must learn for themselves how to be interdisciplinarians. Conspicuously lacking is the institutionalizing of a unifying language and of a broad conceptual framework for interdisciplinary curriculum (Cohen, 1978). Moreover, educational budget cuts resulting from recent tax reductions are no doubt eroding innovative programs of all kinds.

Nevertheless, there is a contradiction that must be resolved between an irreversible trend to interdisciplinarity and the fragmentation of curriculum structure and change. The resulting

dissonance may underlie the impulse to produce this issue of *Educational Leadership*.

Implications and Recommendations

Educational practice is a reflection of social and epistemological phenomena. Interdisciplinary education is not a gimmick for making old material more attractive, but an attitude as well as a set of methods for posing problems that transcend subject matter boundaries and may in fact be created by them. For instance, it took interdisciplinary ecology to discover that DDT, a chemical triumph, was a biological and social disaster (Ozbekhan, 1973-74). Educators need to keep in touch with the realms of scholarship and practical affairs if they are to prepare youth for a world that increasingly demands complex skills of synthesis and teamwork.

The attitudes and methods described earlier have limited scope in a separate interdisciplinary program within a school. Such an arrangement is a safety valve as much as an innovation. Because it is isolated, it can have little impact on the mainstream. Also, it is a paradox in which efforts to synthesize are a fragment of the school day. Students may be confused when the distinctive learning that occurs in the separate program is ignored or negated in their other, conventionally organized, classes. It is recommended that a whole school be regarded as the irreducible minimum interdisciplinary setting.

Many groups practice or study various interdisciplinary approaches independently, sometimes without being aware of other, similar efforts. All might well benefit from a network that would help prevent repetition and stimulate fresh ideas.

Conclusion

There can be no return to tight monodisciplinarity, for interdisciplinarity is a stage in the development of new disciplines. Although teacher training institutions continue to preserve traditional boundaries, it is widely recognized that the problems society faces can no longer be solved within narrow limits. To the extent that we transcend such limits, we will prepare youth and ourselves to understand and perhaps to shape the world. *EL*

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Future ASCD Annual Conferences

1979	March 3-7	Detroit	Cobo Hall
1980	March 29-April 2	Atlanta	Georgia World Congress Center
1981	March 7-11	St. Louis	Congress Center
1982	March 20-24	Anaheim	Convention Center

National Curriculum Study Institutes

Winter 1979

Teacher Evaluation

January 15-16, 1979, Phoenix, Arizona
(Del Webb's TowneHouse)

Supervisors, principals, and college administrators often participate in the process of teacher evaluation. Their judgments are important elements in helping teachers improve their professional capabilities, and in making tenure/promotion decisions. This institute is designed to provide school practitioners with an update on the state of the art, a look at current practices, and some proposals for improving procedures in meeting teacher evaluation responsibilities.

Consultants: Donald M. Medley, Chairman and Professor, Department of Research Methodology, School of Education, University of Virginia, Charlottesville; Charles Santelli, New York State United Teachers, Albany, New York; Philip L. Hosford (Institute Director) Professor of Education, New Mexico State University, Las Cruces; William E. Green, Superintendent, Finneytown Local School District, Cincinnati, Ohio; Richard Manatt, Professor of Education, Iowa State University, Ames; Michael Patton, University of Minnesota Center for Social Research, Minneapolis.

Your registration must be received in the ASCD office no later than Monday, January 1, 1979. The hotel cut-off date is also January 1, 1979.

Teacher Education: Exploring New Directions in a Time of Crisis

January 22-23, 1979, New Orleans, Louisiana
(Grand Hotel)

The depressed job market for teachers, the "greying" of those teachers who do hold jobs, competition from a variety of sources, public disenchantment with education, and increasing funding difficulties are among the problems and pressures facing those involved in the education of teachers at American teacher colleges and schools education. This institute will examine these events as part of the overall structure of American society now and in the future. In addition, the institute will focus on new insights concerning adult learning as well as successful, practical programs designed as positive responses to crisis conditions.

Consultants: Vincent Rogers, University of Connecticut, Storrs; Geraldine Clifford, Associate Dean, School of Education, University of California, Berkeley; Dean Corrigan, Dean, College of Education, University of Maryland, College Park; Judy Lanier, Director, Institute for Research on Teaching, Michigan State University, East Lansing; Robert Anderson, Dean, College of Education, Texas Tech University, Lubbock; Paul Nash, School of Education, Boston University, Boston.

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Detach complete form and mail to: Barbara Collins, Institute Manager, Association for Supervision and Curriculum Development, 1701 K Street, N.W., Suite 1100, Washington, D.C. 20006.

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