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A HISTORICAL PERSPECTIVE ON INTERDISCIPLINARITY AND UNDERGRADUATE RESEARCH IN HONORS EDUCATION

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ABSTRACT

Honors education and curricular innovations have gone hand in hand since the first honors courses appeared in the 1920s. Undergraduate research and interdisciplinary studies are among the approaches that honors programs have adopted to further learning among their students. Both approaches provide students with opportunities to experience how knowledge is produced. Recent thinking on knowledge production, including the idea of “transdisciplinarity,” parallels trends on campuses and in the broader society. Honors faculty might continue their historic role of curricular leadership by examining these emerging issues with their students.

INTRODUCTION

“The leading phenomena of our time exhibit a curiously ambiguous character. Technology may blow us up, or it may usher in the paradise of which man has been dreaming.... Bureaucracy may stifle democracy or be the backbone of democratic government. Nationalism may disrupt the world or prove to be the necessary precondition of a world community.”

That is an excerpt from a speech Robert M. Hutchins gave in 1963 at a conference on the roles and responsibilities of scientists, especially those in government service. He went on to say that the resolution of those ambiguities could not be achieved through scientific procedures, and that “the essential problem is what kind of people we want to be and what kind of world we want to have.” Finding solutions, he said, required “the reorganization of American education and the redefinition of its purposes.” He was not trying to minimize the role of the sciences, but he wanted to put those and all other disciplines into the perspective of larger social issues. He proposed that liberal education, including scientific education, be made a priority, and equally importantly, that attempts be made to build intellectual communities outside of the American educational system and to maintain connections with those communities (Hutchins, 1963).

Hutchins was convinced that in an age of emphasis on science and technology, too many students and educators in the sciences had become too narrowly focused on their special areas. He was not the first educator to be concerned by over-specialization in higher education. At least as early as the 1930s, interdisciplinarity had been discussed as an antidote to the increasing fragmentation of the disciplines.

A kindred spirit of interdisciplinarity that also appeared around that time was general education. At least thirty colleges and universities began general education programs between 1920 and 1940, influenced by programs at Reed College and Columbia University. Hans Flexner describes general education as “a revolt against the fragmentation that had come to characterize liberal education and as a major philosophical and curricular departure” (Rudolph, 1977, p. 256; Flexner, 1979, p. 94).

Another way general education has been framed is as an attempt to balance depth with breadth. According to historian Frederick Rudolph: “General education had to make peace with specialization if it was to succeed in compensating for the narrowness that made specialization so dehumanizing, divisive, and incapable of providing any common ground or bond among educated people” (Rudolph, 1977, pp. 252-53, 256). This peace-making process took a variety of forms, including a compromise in

the form of distribution requirements that allowed academic departments to retain control over their general education course offerings.

The tension between specialization and shared knowledge has continued, and Rudolph observes that specialization has tended stay ahead. However, some institutions did succeed in establishing multidisciplinary, if not interdisciplinary, approaches in their general education courses. Honors programs were often the first place where these curricular innovations were tried.

INTERDISCIPLINARITY

Before focusing on honors, though, I'd like to give a rapid overview of some major themes and developments in interdisciplinary studies. First, what do multidisciplinary and interdisciplinarity mean? Although numerous definitions exist in the literature, they often differ only slightly. The generally accepted characterization is that multidisciplinary studies involve the combination of two or more disciplinary viewpoints without their integration, while interdisciplinarity requires *interaction* among those disciplines. So-called interdisciplinary studies often fail to meet the latter criterion and are, in fact, multidisciplinary.

Interdisciplinary studies have developed for a variety of reasons. One common form has been the evolution of disciplinary sub-branches that crossed disciplinary boundaries and eventually became distinct fields. An example is molecular biology. Other interdisciplinary areas arose due to societal forces. An early example is American Studies, which according to Rudolph, originated in the "cultural self-consciousness of the 1930s." He suggests that American Studies might have paved the way for similar programs in English, French, Russian, etc., which could have been organized around the concept of "culture." But in fact the area studies programs of the late 1950s and 1960s "owed little or nothing to the curricular experience with American Studies." Instead, the impetus behind those programs was nervousness about American foreign policy and military and commercial success. Generous support from foundations and government helped start and sustain area studies programs and research centers, but the programs subsequently died out as financial support decreased and the teams of specialists returned to their respective fields. The departmental structure of universities played a large part in keeping interdisciplinarity "an elusive ideal" (Rudolph, 1977, pp. 249-50; Geiger, 1993, pp. 40, 51).

A renewed interest in interdisciplinarity appeared in the late 1960s and early 1970s, when colleges and universities came under pressure from teachers and students to change existing patterns of education. According to Mayville, interdisciplinary programs were vulnerable since they bore "the academic stigma of being 'nondisciplinary.'" In an era of specialization, there can be no worse indictment." Nevertheless, by the end of the 1970s interdisciplinary programs were more popular than two decades earlier. A directory published in 1977 listed interdisciplinary courses and programs at over 800 American colleges and universities. Part of this growth was due to an increased willingness to change university organizational structures to accommodate university/community research programs aimed at solving social problems (Mayville, 1978, pp. 3-4).

The drop in student enrollments in some disciplines during the 1970s contributed to the growth of interdisciplinary programs. Enrollments decreased because of changes in the job market or a general lack of interest, spurring departments to create programs that were more attractive. This situation led to new interdisciplinary combinations such as business and foreign languages, and English and journalism (J. Fife, Foreword, in Mayville, 1978).

Federal support during the 1970s also contributed to the favorable environment. Support for interdisciplinary research and curricular experiments came in the form of grants from the National Endowment for the Humanities and the National Science Foundation. Both organizations were especially interested in proposals that combined the sciences and humanities, and toward this end in 1978 they began to permit concurrent grant proposals (Mayville, 1978, pp. 4-5).

Many people tend to associate interdisciplinarity with the sixties and seventies, because of its strong link to reforms of that era. The optimism of that period shifted during the eighties to a more

realistic outlook that recognized the disciplinary obstacles to interdisciplinary studies (Klein, 1990, pp. 35-39). In the early 1990s, interdisciplinary studies experienced “a resurgence of interest across multiple sectors,” including K-12 education, collegiate general education, honors programs, and area studies programs. These efforts built on earlier innovations, but they also reflected new demands. A primary force behind interdisciplinarity in the 1990s was the “widespread assertion that knowledge has become increasingly interdisciplinary....” In 1994, Klein and Doty observed, “interdisciplinary courses, programs, centers, and schools have had an enormous impact on recent campus intellectual life” (Klein & Doty, 1994, p. 5).

HONORS PROGRAMS

Honors education and curricular innovations have gone hand in hand since the first honors courses appeared in the 1920s. Frank Aydelotte inaugurated Swarthmore’s honors program in 1922 with the intent of “breaking the academic lockstep” that had contributed to a climate of undergraduate indifference toward scholarship. He sought a balance between too much specialization and not enough. Aydelotte felt that “the essence of liberal education is the development of mental power and moral responsibility in each individual” (quoted in Rudolph, 1977, p. 231).

Independent study was one innovation adopted by the honors programs of the 1920s and 1930s. Seminars and colloquia also became regular features of honors education at a time when lectures remained the preferred mode of instruction for most undergraduate courses (Rudolph, 1977, p. 269). In 1961 Louis Benezet, President of Colorado College, wrote in the *Saturday Review*: “Independent study and honors courses are spreading like wildfire, not only through the private colleges, but also throughout most of the state universities. Most honors programs represent enrichment of standard courses in major fields. Less is being done in interdisciplinary ventures...” (Benezet, 1961).

Joseph Cohen, director of the Inter-University Committee on the Superior Student (ICSS, the predecessor of the NCHC), protested Benezet’s assessment of honors education. According to Cohen, honors programs—which numbered over 200 by November 1961—exhibited a great variety of solutions, including interdisciplinary seminars and colloquia, many involving more than one faculty member at a time. In fact, he wrote, hundreds of interdisciplinary offerings had appeared, many of them since the late 1950s (Cohen to Woodring, 1961).

The increasing popularity of honors programs in the 1960s helped create a positive climate for curricular experiments, including interdisciplinary studies. Innovations in honors programs were also made possible by funding from private and governmental sources. In 1962, for example, the ICSS received a grant of \$89,000 from the National Science Foundation to study the following issues: “1) The value of research participation and independent study for the intellectual development of the student; 2) The teaching of science to non-science majors...4) Interdisciplinary approaches in the natural and social sciences” (ICSS, August 1962).

In 1962, the honors program at Washington State University received an NSF grant of \$22,000 for a multidisciplinary independent study by 15 students in the problems of evolution (ICSS, Sept.-Oct. 1962, p. 28). In 1959, the Carnegie Corporation awarded \$54,000 to the University of Michigan for, among other things, the introduction of an interdisciplinary course in the natural sciences and the initiation of informal meetings for junior and senior honors students aimed at “maintaining breadth of interest during the period of their specialization” (Eckelberry, 1959).

These are just a few examples of funding for curricular innovations in honors education around 1960. Honors educators have often asserted that those innovations eventually go beyond the honors program and permeate other courses on campus. An important element in all of the innovations was the shift from teaching-centeredness to a learning-centered approach.

Although honors programs did not have a monopoly on undergraduate research, certainly many of the undergraduates who participated in research programs were honors students. Research was and remains an important tool in achieving the goals of honors education, and this is indicated by the strong

link that has developed between undergraduate research and honors programs. The National Collegiate Honors Council's co-sponsorship of the National Conference on Undergraduate Research beginning in 1988, the second year of the conference, demonstrates that connection.

EMERGENT ISSUES

Now I'd like to return to the relations between disciplines, since I left that story unfinished. According to recent thinking, a new mode of knowledge production has developed and will be prominent in the future. This knowledge production is 'transdisciplinary' in that "it contributes theoretical structures, research methods, and modes of practice that are not located on current disciplinary or interdisciplinary maps" (Klein & Doty, 1994, p. 2; Peters, 1999, p. 13). According to Julie Klein, this approach reflects the world we live in, including "the erosion of older nation states, the globalization of economic activities, the development of new communication and information technologies and the emergence of new cultural 'particularisms'" (Klein, cited in Peters, 1999, p. 13).

Various scenarios along these lines have been suggested. One forecast is voiced by Henry Giroux, who writes: "Within the next century, educators will not be able to ignore the hard questions that schools will have to face regarding issues of multiculturalism, race, identity, power, knowledge, ethics and work. These issues will play a major role in defining the meaning and purpose of schooling, the relationship between teachers and students and the critical content of their exchange in terms of how to live in a world that will be vastly more globalized, high tech and racially diverse than at any other time in history (Giroux, 1999, p. 231).

Economics guide the orientation of another set of scenarios for the future developed by Peter Drucker (1993, 1994), Michael Gibbons, et al. (1994), and others. They see a future where knowledge is a commodity produced through the teamwork of specialists who have ambivalent disciplinary and institutional loyalties and where specialists are valued over generalists. With the requirements for teamwork, individual contributions are subsumed to group processes. (In a somewhat different version of this scenario, Harold Perkin (1996) sees the death of individualism.) Education becomes more crucial even as distinctions break down between universities versus other institutions, academic versus laypersons, and teachers versus students. In other words, traditional schools will not necessarily meet educational needs. Traditional community ties are expected to continue weakening.

Even if you don't agree with all elements of these forecasts, as a group or even individually such scenarios have major implications for education. The fact that several common threads are evident suggests that we might need to take them seriously.

Undergraduate research and interdisciplinary studies can reasonably be expected to examine and address the new environment depicted in these and other scenarios for the future. I'd like to suggest that undergraduate research might be well suited to answering some of the challenges of the emerging environment. Although transdisciplinarity or even interdisciplinarity might be beyond the reach of undergraduate education for the time being, I believe that undergraduate students are capable of thinking about how knowledge is constructed and what the implications are. Undergraduate research, whether in general education or the major field of study, can provide a space for problem-based explorations that include reflection on the production of knowledge. Looking to the future, honors programs might continue their historic role as sites of innovation by leading the way in tackling the emerging issues.

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