

## **The Administration of Interdisciplinary Programs: Creating Climates for Change**

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**INTERDISCIPLINARY PROGRAMS** and curricula arose in part from the cultural transformations through which we passed in the nineteen sixties: the rediscovery of Asia because of the war in Vietnam; the widespread recognition of grave crises in our environment; the rise of mass education and the consequent diversity in our student populations, all produced a feeling that we had, for all our efforts, been out of touch with the real world. The emerging technological university with its seeming alignment with the military-industrial complex, its disciplinary hegemonies, and its dedication to specialization appeared to be yet another of the institutional bureaucracies emerging in a newly depersonalized society.

Educational leaders responded to the challenges of the period, and a number of interdisciplinary programs and institutions were developed, many offering significant lessons for on-going administrative problems. William H. Newell in 1986, in *Interdisciplinary Undergraduate Programs: A Directory* listed 235 programs, the majority of which were started after 1971, a growth that he has called an “interdisciplinary renaissance” linked to the desire “to revitalize the core of the liberal arts” (1990, p. 180).

The strongest areas of interdisciplinary curricular development in the eighties have been in the humanities and in general education. The quests for common learning in general education and for a curriculum which will

develop responsible citizenship are strongly conducive to interdisciplinary development, and integrative studies have been recommended by every national organization from the Foundation for Post-Secondary Education to the Carnegie Foundation.

Although it would seem that the future of interdisciplinary curricula or programs would be assured, decided problems remain. A large number lie in the realm of organization and administration. I will synthesize in this essay some experiential lessons from the past several decades in developing and administering curricula in three areas: interdisciplinary colleges, general education, and centers and programs.

## I. Interdisciplinary Colleges

Beginning an interdisciplinary college might seem to require leaders with Renaissance intellects and entrepreneurial energies and skills beyond the mental scope and capacities of most administrators. On the surface such an organization often appears to have a structure vastly different from the departmentalized and segmented institutions with which most of us are familiar. However, a structure to support interdisciplinary programs can be arrived at by processes more easily learned and adapted for individual use than is usually thought. In fact, the traditional structures of most colleges hinder essential modes of collaboration. Helpful administrative principles emerge from an examination of the experience of some successful institutions which were begun in the recent past. I will state the principles here, and discuss them in terms of several institutional contexts:

1. Develop interdisciplinary curricula in a manner that will restore praxis to learning and bridge the gaps between theory and practice.
2. Emphasize faculty development and plan pedagogical strategies to implement interdisciplinary studies.
3. Organize non-hierarchical administrative structures which provide flexibility and adaptability for both faculty and administrators.
4. Develop a spirit of self-criticism and encourage risk-taking accompanied by the careful assessment of program goals.
5. Seek administrators with experience in interdisciplinary programs to lead the college.

Let us look at the practices of three innovative institutions begun in the sixties and seventies in the light of the principles I note above: The Evergreen State College, the University of California at Santa Cruz, and the

University of Wisconsin at Green Bay. Most of my commentary will focus on Evergreen because of all institutions begun in the sixties and seventies, it is the best example of continued success in maintaining and developing its original goals for collaborative interdisciplinary learning. The Evergreen State College is a public college in Olympia, Washington, founded in 1971, presently enrolling about 3,200 students. The legislature of the State of Washington charged the college with developing an innovative structure that would not duplicate the existing academic resources of the state. The Universities of California at Santa Cruz and of Wisconsin at Green Bay have met with continued success, but have found it necessary to modify their original intentions to become interdisciplinary institutions in order to remain viable alternatives within their state contexts; thus, I will make only brief comparative references to them. In Gerald Grant and David Riesman's study, *The Perpetual Dream* (1978), the University of California at Santa Cruz was called "a telic reform," meaning that the founders had attempted to change undergraduate education to embody a distinctively different set of ends or purposes (p. 2). Clark Kerr, the President of the California system, appointed Dean McHenry, a professor of political science from Berkeley, the founding chancellor of the proposed campus at Santa Cruz in 1961. McHenry set out to counter the isolating pressures of contemporary university life by creating a student-centered self-directed education (Von der Muhll, 1984). The University of Wisconsin at Green Bay was authorized in 1965 when awareness of an environmental crisis emerged. Environmental concerns were to be the broad unifying theme of the university, including not only the scientific bases of environmental exploration, but also the social, cultural, and aesthetic dimensions. The location of the university at the mouth of Green Bay featured strongly in this decision. Green Bay's founding administrators and faculty worked collaboratively to design a unique problem-focused curriculum.

Let us look closely at the first principle of good practice for interdisciplinary colleges: the need to think as creatively as possible in collaborative groups about the goals, structure, or praxis of the curriculum. This principle is important for all interdisciplinary development. Interdisciplinary curricula cannot be evolved without innovation and careful group planning. It has often been a temptation at the inauguration of a new college to utilize international studies, ethnic studies, American studies, or environmental studies as the central foci for the curriculum, since established programs exist in these fields. Although this practice may stabilize the inauguration of a small school, it most often represents a failure of imagination and a consequent loss of vitality in a larger institution.

The attention to curricular function and design can be readily perceived at The Evergreen State College in their Mission Statement which directs that the traditional disciplines of the humanities, arts, natural sciences, and social sciences be transformed into teaching and learning experiences characterized by:

1. interdisciplinary learning communities that immerse students in complexity and in diversity of perspectives, and which foster development of the skills of cooperation, communication, and integration;
2. internships and applied projects that bridge theory and practice;
3. small classes and narrative grading which require active involvement of students, even at the beginning level;
4. independent study options and self-evaluations where students take responsibility for their own learning; and
5. a campus environment that celebrates diversity as a resource for learning.

The goal is to produce graduates who are distinguished by “their ability to communicate, by their self-reliance as learners and researchers, by their ability to conceptualize and to solve problems, by their comfort with diversity and complexity, and by their commitment to personal integrity and the public good” (Institutional Mission, 1990).

Evergreen faculty and administrators worked out detailed models for interdisciplinary learning. The first model noted in the *Institutional Self-Study* of 1990 involved studies among or between several academic disciplines. The second model involved studies drawing upon several disciplines, combining their information and techniques to solve complex problems, or treating themes larger and more complex than those within the competence of individual disciplines. The third model involved studies going beyond traditional disciplines to open new fields of inquiry not yet treated by conventional sub-units of the disciplines (*Institutional Self-Study*, 1990, p. 15). Interdisciplinary curricula helped students integrate information, and forced them both to recognize divergent truths and to relate their knowledge to responsible action in the world. Internships and field work supported the emphasis on practical experience.

The academic program at Evergreen involves a series of unique structures. For example, Coordinated Studies Programs with faculty teams of two to five, and with 40 to 100 students focus on a particular theme or topic. In the first year of the College’s existence these topics included: Human

Development, Political Ecology; Space, Time, and Form: Common Problems in Art and Science; Freedom, Causality and Chance; The Individual in America; Environmental Design; Contemporary American Minorities; Individual, Citizen and State; Man and Art: The Renaissance and Now; Communication and Intelligence; and Human Behavior (Youtz, 1984, p. 97).

The advanced-level curriculum at Evergreen was formed around the specialty areas discovered to be essential and attractive to the student population. In the 1989-90 curriculum seven specialty areas and three centers were used to structure the undergraduate curriculum. Environmental Studies and the Science Technology and Health areas present well-developed sequences and patterns of development, while others, such as Political Economy and Social Change, have strong intermediate work but less developed sequencing of advanced work (*Institutional Self-Study*, 1990, p. 23). Other areas offered have been Health and Human Development, European and American Studies; Management and the Public Interest; Northwest Native American Studies, Political Economy, and Scientific Knowledge and Inquiry (Youtz, 1984, p. 102).

A different approach to development was taken at the University of California at Santa Cruz where a series of small residential colleges were developed to prepare for a student centered, self-directed education (Von der Muhll, 1984). Chancellor McHenry attempted to found a university which would not culminate in the kinds of bureaucracy then present at Berkeley and where the values of corporate capitalism — such as the search for prestige among external peer groups — would be less emphasized. In fact, these ideals tended to take precedence over more pragmatic matters such as the complexities of curriculum development. Students were housed in colleges dedicated to themes with already established interdisciplinary foci, such as the arts, social sciences, environmental studies, ethnic studies or international studies. The college offered required introductory core courses. Faculty held appointments in the colleges, and each college had faculty from all disciplines. Divisions of Humanities, Natural Sciences, and Social Sciences were then created under the administration of three deans who received all instructional funds, paid salaries and offered upper level work emphasizing interdisciplinary cooperation. Each college was rather like an Honors Program in any university, with resident faculty of considerable size, a theme, and a social program.

Santa Cruz did not emphasize curriculum development to restore praxis to learning, although highly imaginative individual courses were developed by faculty. The divisions lacked leadership for interdisciplinary curriculum

development at the upper level, and eventually, even the core courses developed in the individual colleges lost innovative momentum and enrollment. Such established curricular themes as environmental studies or ethnic studies did not force faculty to start with students when thinking about curriculum, and enrollments were affected when students could not see clearly how the curriculum might be related to the world of work. Furthermore, Santa Cruz had always attracted outstanding research faculty whose interdisciplinary interests arose from the problems they investigated. An individual praxis was substituted for a collective one. These faculty naturally looked for support to their colleagues in the divisions rather than to the colleges, just as faculty in an Honors Program might look to their departments for scholarly collegiality. A collegiality focused on curricular strategies or pedagogical ones never took place. Since faculty disciplinary bonds remained within the divisions, Boards of Study were soon created which resulted in a return to disciplines. Faculty found themselves caught between two masters: the college and the Board of Studies (Von der Muhll, p. 73; McHenry, p. 108).

In contrast to the situation at Santa Cruz, the administrators and faculty at the University of Wisconsin at Green Bay worked collaboratively to design a unique problem-focused curriculum. However, the university was devoted solely to the theme of environmental studies. In this case problem-based departments called concentrations were grouped into four theme colleges: the term "concentration" was chosen purposely to avoid association with the disciplinary characteristics of traditional "departments" (Weidner, 1977). The theme colleges were Environmental Sciences, Human Biology, Community Sciences, and Creative Communications. (The latter college was divided into two problem-oriented departments, one concerned with aesthetic awareness and environmental design and the other with humanism and cultural change.) As their central curricular focus, students were asked to identify a problem around which they would develop their skills. Although the gaps between theory and practice were reasonably well bridged in this curriculum, students toward the end of the seventies, a time of severe economic problems, wished to prepare more directly for the world of work. The fixed curricular focus of environmental studies was too detached from the varied vocational points of entry for which students needed to prepare. Thus, even though faculty had thought about curricular praxis they did so in too limited a mode.

My second principle of successful interdisciplinary studies involves the establishment of a pedagogical philosophy and strategies to support the curricular endeavors. Here, The Evergreen State College offers strong evidence of the success to be encountered when faculty members stress a meaningful

pedagogy, in this case including a format for team teaching. Richard Jones (1981) notes that the founding faculty of Evergreen were decisively influenced by Joseph Tussman's book *Experiment at Berkeley* (1969). Tussman's experiment was modeled on Alexander Meiklejohn's Experimental College at the University of Wisconsin between 1927-1932. Tussman was attracted to this experiment on curricular grounds — especially to the study of classical Greece, seventeenth-century England, and the United States Supreme Court — as the purpose was to initiate the student into a participatory democracy; Evergreen's founders were influenced by the pedagogical innovation at Berkeley and Wisconsin, rather than the curriculum itself (Gabelniek, MacGregor, Matthews, and Smith, 1990, p. 14). Mervin Cadwallader, Evergreen's most influential early Dean, argued, as did Tussman, for a "moral curriculum" which would help prepare students for participation in a democratic society (Gabelniek, MacGregor, Matthews, and Smith, 1990, p. 14).

A collegiality focused on pedagogical strategies never took place at Santa Cruz. Administrators hoped that faculty would undertake some of these initiatives by themselves, but it was not done. Since disciplinary bonds remained in the Divisions, a return to disciplines was inevitable. Pedagogical practices at Wisconsin Green Bay were, also, not defined. Students were asked to identify problems around which they would develop their skills, but pedagogy must, of course, also involve faculty. The central problem at Wisconsin continued to be the fixed curricular focus. Perhaps the statement by the authors of the Year 2000 report at Green Bay contending that interdisciplinary programs must be built on a "foundation of strong curricula and faculty in the disciplines" (Klein, 1990, p. 160) speaks to this lack.

The third principle of good practice, the development of non-hierarchical administrative structures, enhances the fourth principle of assessment. Innovation requires decentralized decision-making in order to increase commitment and ownership: "The greater the hierarchy of authority,... the lesser the rate of innovation" (Seymour, 1988, p. 9). Administrators and faculty at Evergreen sought to mitigate barriers with fluid boundaries. Standing committees were avoided since they tend to gain power over the years and create inertia in the system. Charles J. McCann, the founding President at Evergreen, believes that the academic organization of Evergreen creates the flexibility for the collaborative interdisciplinary curriculum (McCann, 1990):

My ideas for Evergreen were composed of a list of negatives (no departments, no ranks, no requirements, no grades) accom-

panied by a vaguer list of positives. We should have cooperative education and internship options for students. We should be interdisciplinary. There should be as little red tape as possible among faculty members, students, and what is to be learned. Freshmen — everyone — should have the opportunities and obligations presented by seminars. Evaluation should be in narrative form. Library and computing services should have disproportionately large shares of the budget. Students should be able to study on their own when they're capable of it (p. 148-149).

McCann and other founding administrators felt that if the department were the basic unit of organization faculty would neither create ideas for coordinated studies nor jointly plan them, so departments were eliminated. Under McCann, Evergreen also tried rotating deans, a policy which led to some difficulty. The first central committee on governance was termed a Disappearing Task Force, a name still used for primary policy recommending committees, which are dissolved after tasks are completed.

Most radical of all measures at Evergreen designed to reduce hierarchy was the avoidance of a system of tenure and ranking, a policy that organizers of interdisciplinary colleges elsewhere may find too radical to gain support. The culture of The Evergreen State College continues to hold autonomy and re-creation as central values (B. L. Smith, *Personal Communication*, Nov. 6, 1990; see Acknowledgements), and the avoidance of hierarchy creates structural flexibility for the constant replanning which takes place in interdisciplinary units.

Presently, a system of differential faculty contracts is under review at the College. A set salary scale based upon years of experience with no allowances for market differences by field remains the system of monetary reward, and the faculty remain adamant about it. According to Barbara Leigh Smith, Academic Dean, the system has had no adverse effect in terms of attracting faculty to Evergreen (*Personal Communication*, 1990). McCann noted in 1977 that determinations on retention were to be made by deans and the provost on the basis of evaluations of students and faculty members with whom the person in question had worked. The goal of collegiality was sought, with the advice of others helping to create personal growth and improvement — this being the goal of the system (McCann, 165).

At the University of California at Santa Cruz, the small residential colleges have been continued, though they do not play a role in the academic curriculum. The Boards of Studies formed in the Divisions continued



departmental hierarchies. At the University of Wisconsin-Green Bay, interdisciplinary departments within colleges with chairs reporting to Deans of the Colleges maintained hierarchical structures. Thus, both faculty and administrators had little incentive to initiate collective endeavors.

However radical the measure of removing systems of rank and tenure may be, it is nevertheless true that non-hierarchical structures encourage criticism and honesty in assessment — the fourth significant principle we identified. Critical debate and constant evaluation of the outcomes of interdisciplinary work and teaching must take place if a college is to respond fully to student needs. Small democratically organized groups receive information quickly, assist the faculty in experiencing ownership of their work, and help faculty tolerate the ambiguity inherent in interdisciplinary colleges and programs. Of course tolerance of ambiguity is one of the most positive outcomes for students in interdisciplinary programs, but it can be extremely productive for faculty as well. At Evergreen, for example, a weekly faculty seminar is organized in which faculty share their expertise in each program and help their colleagues and teammates become strong interdisciplinary teachers. These seminars are the top priority of coordinated studies and coordinated studies faculty meet once a week, preferably in public, with students expected to observe.

The fifth principle we slated is that experienced leadership is essential when beginning a sizable interdisciplinary institution such as a college. While idealism or discontent with traditional structures may be the central motivation of founding administrators, what is needed at the beginning is the kind of stabilization that administrative experience can bring. The importance of experienced leadership at Evergreen has been emphasized by former Provost Byron Youtz, an administrator with earlier experience at Reed College and at SUNY at Old Westbury from 1978-82 (B. L. Smith, Nov. 6, 1990; Youtz, p. 96). Founding administrators at Evergreen were all experienced, coming both from private liberal arts colleges such as Oberlin and Reed, and from innovating public universities. Evergreen was able to profit from earlier experiments such as the one at Santa Cruz. At Santa Cruz, administrators, though highly competent, were for the most part, without experience in interdisciplinary communities (McHenry, p. 107). Understanding the necessity of flexibility is most valuable for administrators, and it comes from experience with interactive structures that encourage the free flow of ideas. The compartmentalization inherent in the traditional segmented structures of academic departments inhibits this flow. "Segmentalism," as it is called in industrial organization, keeps any organization from changing and stifles potential innovation (Kantor, 1983, p. 31). Colleges and

universities are paradoxical organizations in that segmentation or departmentalization was created to foster innovation in research, but as disciplinary instructional agencies, departments are conservative and, therefore, find it difficult to provide the necessary complement of integrative learning.

Leaders of interdisciplinary colleges and programs, like entrepreneurs in non-segmented business corporations, need the ability to work through participative teams to manage the problems associated with team work (Kantor, 1983). An interdisciplinary college or program necessitates working with faculty from various specializations to provide truly integrative leadership. Disciplinary differences are also cultural differences, a coincidence that is often the source of considerable humor among faculty. However, understanding differences in values or ideology is a serious matter for leaders of interdisciplinary programs; empathy, listening skills, and a positive expectations of differences are essential.

Jerry Gaff and Robert Wilson's useful research on cultural differences among faculty associated with different fields (Gaff and Wilson, 1971, pp. 186-201) noted that the more codified the knowledge in a particular field, the more tightly focused and structured the pedagogical style of the faculty. Faculty from education and the fine arts were found to encourage group participation while faculty from engineering and mathematics were less inclined to do so. Teachers of foreign languages supported a highly disciplined approach to learning and were skeptical about student motivation in learning, since they normally instruct in an area which is required. Gaff and Wilson concluded that innovators wishing to lead interdisciplinary programs should seek a kind of "cultural pluralism," in which "differences are considered complementary rather than in conflict" (p. 201). Transactional leadership which can seek out and respond to the needs and values of the members of small groups and pay attention to differing faculty cultures is as necessary to interdisciplinary programs as is intellectual leadership linked to values, purposes and goals (Burns, 1978, p. 141-42).

## II. Interdisciplinary General Education Programs

Interdisciplinary general education fulfills important academic goals. Many national educational organizations have recognized this and recommended such development, yet few universities and colleges have succeeded in affecting change. Disciplinary distribution models of general education remain dominant, providing an opportunity for students to

broaden their education by selecting courses outside of their major, but suggesting no other purpose or mission for the requirement. I would like to suggest three principles of interdisciplinary general education development.

1. Develop a goal oriented mission statement for an integrative general education linked to contemporary society.
2. Establish an all-college or university-wide base for general education development, review, and coordination.
3. Research existing program models and develop an extensive pool of successful program ideas to increase creative thinking and provide assurance for participating faculty.

The principles noted earlier for the development of interdisciplinary colleges also hold for interdisciplinary general education development: establish a strong curricular praxis, plan pedagogical strategies and faculty development, organize non-hierarchical administrative structures, encourage risk-taking and program assessment. It is not, however, necessary that institutional administrators all have experience in interdisciplinary programs, so our fifth principle does not apply.

Let us begin with the first principle for interdisciplinary general education: the development of an adequate contemporary mission for general education. Developers can usually secure agreement that liberal education seeks to prepare students for self-reliant learning and for participation in a democratic society. In addition to the traditional emphasis on preparation for a democracy, faculty generally agree that they must prepare students for at least two new conditions. First, specialized knowledge is increasing at a rate too rapid to be accommodated without the development of special capacities to integrate learning across disciplines. Second, we live in an interdependent global community requiring a comparative understanding of different cultures and modes of thought and the ability to perceive the ways in which complex external forces shape our environment. These two conditions require a general education which increases the ability of students to integrate wide-ranging and disconnected subjects and to perceive relationships more readily. It can be argued that these new educational objectives are best fulfilled by an interdisciplinary general education and that such education must be a part of a good mission statement today.

Every national organization in support of liberal learning has sought to persuade its constituency of the need for interdisciplinary curricula to fulfill the contemporary mission of general education. The first major report, *In-*

*volvement in Learning*, published by the National Institute for Education in 1984, emphasized that the reform of liberal education should be based on collaboration among faculty from different departments who will work “to integrate knowledge from various disciplines” (N.I.E., 1984, p. 43) and utilize such integrative mechanisms as senior theses and seminars. In 1985 *Integrity in the College Curriculum*, a report of the Association of American Colleges, reaffirmed this commitment: “We do not believe that the road to a coherent undergraduate education can be constructed from a set of required subjects or academic disciplines. We do believe that there are methods and processes, modes of access to understanding and judgment, that should inform all study” (A.A.C., 1985, p. 15),

In 1989, in another report, *Structure and Coherence: Measuring the Undergraduate Curriculum*, the A.A.C. described in detail the “continued fragmentation of an educational experience that ought to be greater than the sum of its parts” (A.A.C, 1989, pp. 53-54). And Frank Newman, in a report for the Carnegie Foundation for the Advancement of Teaching, Higher Education and the American Resurgence, pleaded that general education might once again become education for civic responsibility. Newman noted “As fields become more complex, the temptation rises for faculty to stay within the limits of factual knowledge, to see one’s task as teaching the methodology of physics, or sociology, and therefore, to abdicate responsibility for the whole student” (Newman, 1985, p. 59).

Finally, in 1987, Carnegie published Ernest Boyer’s *College: The Undergraduate Experience in America*, a direct plea for interdisciplinary courses and integrated education. Boyer’s investigations across the country found general education to be composed of a collection of disciplines pursuing no common goals whatever. He called for bridges to be built so that ultimately the core program might be seen as relating the curriculum consequentially to life: “general education is not complete until the subject matter of one discipline is made to touch another” (Boyer, 1987, p. 91). He recommended an integrated core concerning itself with the universal experiences common to all people, and proposed a framework which placed such disciplines as language, art, or science in contextual settings or frames that invited the development of integrative courses. Science, for example, (Boyer, 1987, p. 92) became *Nature: The Ecology of the Planet*, a title that might invite interdisciplinary courses in environmental studies.

These critiques can be of assistance in developing a strong institutional mission statement for general education. They all insist on a new praxis for liberal education, relating it to contemporary life. No doubt they are by their nature almost too pragmatic and should say more about our cultural condi-

tion. But all imply that we make changes to prepare a graduate to deal with the pressing problems of our time: climatic change, environmental and energy problems on a global level; technology assessment; changing political and economic life in an interdependent global society; world peace; economic equality without instability; crime and drug prevention; the integration of newly migrating minority populations; the world food crisis; and the information revolution. Clearly a problem-focused integrative curriculum could restore a praxis to liberal learning and connect it once again to ethical action and common purposes and understandings.

My second principle or strategy requires the establishment of an all-college or university-wide base for development and coordination of the general education curriculum and for the orchestration of change. The establishment of such an Office of General Education with a Director or Dean is essential to the continued success of any innovative curriculum. From this new fulcrum faculty can be released from the competitiveness inherent in the departmental structure and brought into collaboration with each other. In a university, a General Education Committee should be external to the College of Arts and Sciences and involve representation from all colleges. This is essential to mobilize faculty support for the common purposes and goals of the general education mission. It is generally best to have such a committee appointed by the Academic Vice President or the Faculty Senate on the advice of the Director or Dean. In a very large university of more than 20,000, a Dean for Undergraduate Studies may be created who, in addition to being responsible for general education, might also coordinate advising, or supervise the university honors program and other kinds of undergraduate curriculum development. In a smaller university a Director of General Education who may teach one-third or one-half time is sufficient. In a liberal arts college, the Associate Dean or Provost might include this among his or her duties. The important goal of this office is to ensure that general education development is an ongoing activity, not an entity to be reviewed every five or ten years. Momentum is important to catalyze change.

Initially, the Director may implement a program, interdisciplinary in whole or in part, recommended by an all college or university undergraduate council. Subsequently, the General Education Committee may recommend consideration of a development to the council. If no plan for interdisciplinary general education has been formulated, the Director must seek to augment such a program from the entrepreneurial faculty teams assembled across departments. These teams can then meet with the General Education Committee, thus, beginning a plan from the bottom up.

Although curricular models in one institution are seldom transferable to another, it is helpful to know that institutions similar to one's own have dealt imaginatively and successfully with integrative general education. Thus, my third strategy involves having faculty examine a range of existing programs before creating their own. If an agreement cannot be reached on a full interdisciplinary general education curriculum, an alternate program may be formed for those students and faculty who wish to adhere to this approach. Occasionally, alternate programs are developed as schools with tenured faculty, whose students take two years or more of general studies in the school and select a disciplinary major external to the school.

The programs at universities such as Utah, Harvard, Michigan State, or at such smaller institutions as Bradford College, Hartford University, or St. Joseph's College in Indiana exemplify the interdisciplinary core. Here general education development in international studies would be satisfied not by Comparative World Government in the Political Science Department or by World History in the History Department, but by Hartford's "Living in a Cultural Context," or Bradford's "Global Perspectives," or Harvard's "Foreign Cultures."

The broader interdisciplinary frame is defined by careful guidelines for course development. For example, Hartford's "Living in a Cultural Context — Other Cultures" stresses the development of cultural empathy and a sense of cultural relativity. Harvard's "The Religion and Culture of Islam" considers the formative development of fundamental institutions, religious practice, literary achievements, and the modern situation of Islam in different regions from historical, sociological and psychological perspectives. Bradford's required "Global Perspectives" seeks a multidisciplinary examination of selected and timely issues of the modern global system such as the nuclear arms race, population control, or economic development from social, cultural, political, and technological perspectives.

Hartford's guidelines seek to place learning in a contextual frame that unites knowledge and human experience in courses such as "Living in a Social Context" or "Living in a Scientific and Technological World." Active modes of learning are developed to promote greater involvement of students with course material. Bradford's plan sought to evolve guidelines for interdisciplinary courses emphasizing learning common to all people. It led to a new practical view of the liberal arts possessing more incisive values and more flexibility for the world of work. St. Joseph's College offers a core leading to a world-view that concludes with courses in Christian Humanism and Ethics, thus expressing the deepest values of the institution.

The more an interdisciplinary program is an expression of the collective values of the institution, and the more carefully and concretely the overall mission is focused, the more possible it will be to conduct a satisfactory assessment of the program and the greater its success. Jerry Gaff and R. Wilson (1988) note that to be effective assessment needs to be part of a larger improvement effort that also includes “sharper goals, course review, faculty development and work on pedagogy.” Faculty development and attention to an active pedagogy are also essential for a successful interdisciplinary general education program. Resources need to be provided for regular summer institutes for course development for on-going faculty refreshment. The investment may seem costly initially, but the event will often transform a campus completely.

Both large and small institutions should think creatively about structural supports for interdisciplinary course development. An elaborate administrative structure is not necessary for a small college thinking of establishing a general education curriculum which may be interdisciplinary in whole or in part, but some base of support for the interdisciplinary teams involved in designing or monitoring courses must be provided. On the other hand, a very large university will require extensive organization and support.

Michigan State University has begun several college level schools of Integrative Studies in the Social Sciences, Humanities, or Sciences attached to the colleges of Social Science, Arts and Letters, and Science. Faculty assigned to the schools for the preparation of the interdisciplinary general education courses in the area may or may not belong to the academic unit of the college that houses the school. New faculty may be hired with a full- or part-time affiliation with a school, provided that the new faculty have an academic unit affiliation with a college. The budgets of the Centers will reflect the salaries of those individuals assigned to the Center for that period including faculty. Funds for research and development will also be provided. Advisory committees will be selected from faculty assigned to each Center by mechanisms agreed upon by each Center and its dean. Finally, the Provost will appoint an advisory committee on the Core Program, with responsibility for monitoring and insuring coordination across the Core Colleges.

The formation of an alternative interdisciplinary general education program is most often successful in large universities where agreement on an integrative core may be difficult to secure. Interdisciplinary honors programs are, perhaps, the most common example of this kind of curriculum. SUNY Stonybrook’s Federated Learning Community, Eastern Kentucky’s interdisciplinary general education departments, George

Mason's Page Program, or Wisconsin's Integrated Liberal Studies are examples of the forms alternative programs can take. Many upper-level interdisciplinary core programs are optional or alternative, as are some interdisciplinary freshman seminar programs such as the University of Rochester's Venture Program. One of the best kinds of alternative interdisciplinary structures may be an interdisciplinary school with its own faculty.

Beginning an alternate program will provide development for faculty teaching in the regular general education program and may create interest in requiring interdisciplinary instruction for all students. A university or college might then end up with a program such as that at Hobart-William Smith Colleges where students take one interdisciplinary Modes of Knowing course in the freshman year, one or more bi-disciplinary courses in the sophomore or junior year, and conclude with an interdisciplinary seminar and research project in the senior year.

The most serious administrative problem in developing alternative general education programs is that of securing faculty to teach in the program. Occasionally, as in the Federated Learning Community at Stonybrook or the Venture Program at Rochester, the very structure of the unit alleviates the problem by creating interdisciplinary connections among existing courses, or by designing a capstone experience. The more usual choice, however, as in the case of honors programs and most alternate structures, is to create a fully interdisciplinary program with existing faculty. There are several helpful things that administrators can bear in mind to assist with this in a time of limited resources.

First, institutional consensus is important for all innovative curricular endeavors. The Dean of Arts and Sciences in a university should work with the Director of General Education to lead consensus from his or her department chairs for interdisciplinary alternative general studies programs. It is a rare faculty who will vote in opposition to programs which demonstrably attract better students to a university. Small interdisciplinary schools, such as the ones at Western Washington and Miami, provide solid evidence of the attraction of high-quality students to their programs. And yet votes are seldom solicited nor are individual college curriculum committees in Arts and Sciences or in professional colleges consulted. When program directors seek release of faculty, the departments, having never been consulted previously nor having ever participated in the formation of such a program, naturally experience no ownership of the program itself. Thus, often, university programs must pay departments "ransom" fees to release faculty to teach in programs, a sum smaller than the cost of a graduate student replacement.



Secondly, the faculty development policy in any institution should include instructional development- This will also permit deans and departments to encourage faculty participation on that basis. A Faculty Development Center should be considered where summer institutes for interdisciplinary program development could be based in addition to other kinds of instructional development.

It is possible to develop alternative interdisciplinary programs by coordinating or clustering disciplinary courses and adding interdisciplinary unifying courses to make a program, as the Federated Learning Community at SUNY Stonybrook suggests. During each of two consecutive semesters, students who enroll in an FLC program take three regular University courses offering different disciplinary perspectives that have been identified on the basis of their relevance to a program theme such as Technology, Values and Society or International Understanding, or Management and Business. The fourth course is a Program Seminar providing a small student-centered learning community and seeking to integrate the material of the program courses. The year's programs can then serve as a student minor in the program theme. At Stonybrook, the faculty leader of the interdisciplinary unifying seminar takes the other three courses as a Master Learner, writing the papers and taking the examinations. The Master Learner is then able to provide feedback to the participating faculty on the effectiveness of their courses,

The Freshman Venture Program at the University of Rochester is designed to cross disciplinary lines by grouping courses around organizing themes. Each venture satisfies several basic graduation requirements, including in most cases English composition, and continues for two semesters. The Venture in Foundations of Western Culture includes a two semester interdisciplinary course in European civilization from pre-Homeric Greece to the French Revolution. During the first semester, students take a special literature course taught by members of the departments of English, Foreign Languages and Literature, and Religious and Classical Studies. During the second semester students take an elective from a list of disciplinary courses covering the same time period.

Finally, interdisciplinary upper level core programs or capstone experiences can offer an alternative general education program which may gain support in many institutions. There are two ways of designing the upper level integrative core. The first entails designing new interdisciplinary synthesizing courses as at Ohio University and at many small liberal arts colleges such as Hobart and William Smith Colleges. It is also possible to design an integrative upper level core "in-load" by redesigning existing upper level in-

terdisciplinary courses to meet general education objectives, as at Bowling Green State University. Though interdisciplinary programs may still be limited in number, the most interesting discovery that an administrator may make is the unusual number of interdisciplinarians closeted in the departments of his or her own institution.

The establishment of an interdisciplinary school can also be one of the best alternative interdisciplinary structures for a disciplinary university. Such organizations work best when faculty are tenured in the school and have freedom to teach in disciplinary departments or to hold adjunct appointments. Individualized majors are encouraged, but students often complete a disciplinary major in another department in the university. The School of Interdisciplinary Studies at Miami University (Ohio), begun in 1974, is a successful example. Core liberal studies courses are developed collaboratively in the areas of creativity and culture, natural systems, and social systems; and they fulfill the University requirement for general education. A Junior Seminar continues interdisciplinary studies with more advanced topics, and a senior project is required in the senior year; field work and study abroad are strongly encouraged. The school's success is attributable to a holistic vision that emphasized the relationship between the curriculum and the residential community. Other successful examples are the Paracollege at St. Olaf's College in Minnesota, Fairhaven College of Western Washington University, and the Interdisciplinary Program at Wayne State University.

Between 1981 and 1984 Thomas Maher administered a FIPSE grant called "Creating Connections: An Experiment in Interdisciplinary Education." The project was designed to explore alternatives to the traditional ways in which general education is delivered to American undergraduates, and it concentrated on expanding upper level courses for interdisciplinary general education. At the conclusion of the project Maher offered advice to administrators.

First, since the departmental structures will, in fact, resist building bridges with another discipline, some sustaining administrative mechanism must be in place if programs are to continue. Second, without guidance faculty tend to think of juxtaposing bodies of knowledge rather than of integration and new patterns of thought. Third, most faculty, even though interdisciplinary in their teaching and research, have no opportunity to talk with faculty in other disciplines in which they have an interest, unless a context is provided. Finally, students are not generally given an adequate explanation of what is being attempted in interdisciplinary courses (Maher, 1984). These cautionary statements should be added to our three strategies.

### III. Interdisciplinary Centers, Institutes, and Programs

Interdisciplinary centers and programs have grown rapidly over the past several decades. In an essay discussing the problems and prospects of these structures in the eighties, Caroline Eckhardt noted that they do not fit into the conventional departmental structures and hierarchies, and that they are often seen floating “on the white space of the organizational flowchart” (Eckhardt, 1978, p.2). Interdisciplinary programs or research institutes often seem to faculty to be in a state of unusual flux and change, and are suspected of drawing resources away from the university “proper.” But often the implosion of the disciplines from within produces the new structures. Centers for medical ethics now spring from philosophy departments, environmental centers from Biology or Physics Departments, and centers for public policy or public administration from Political Science Departments. The scientific, technological, and social problems of society cannot be easily resolved in traditional departments, and service relationships between the university and the community must be supported by the creation of these interdisciplinary units. Stanley O. Ikenberry and Renee C. Friedman (1972) estimated that more than five thousand institutes and centers were operating on American campuses.

**Centers and Institutes.** Often the initiative behind many centers and institutes is external, emerging from federal or state government agencies who wish to be assured that their sponsored research will not be diverted by departmental business. Some institutes are independent corporations with some common staff, others are parts of departments or colleges, still others have an independent status like a school; and thus their integration into the life of the university is complicated (Ikenberry and Friedman, 1972, p. 6). Many institutes have full managerial staffs and hierarchies; others have only a small group of staff members with ties elsewhere; still others are “shadow” institutes emerging from departments when needed and supervised by a part-time faculty member.

Ikenberry and Friedman (1972) cite eight reasons for creating centers and institutes. These are: strategies for institutional development; faculty recruitment; increased coordination among departments; strengthened research programs; resolution of internal conflicts (including separating two powerful faculty members in a single department); increased communication and collaboration between departments; the creation of special areas of academic specialization; and institutional prestige (p. 20).

I would cite three administrative principles which are self-explanatory to assist with the complex of problems generated by these structures:

1. Establish a Central Advisory Board to coordinate the centers and institutes and try to assure that the faculty serving on this board include some of those who hold seats on other significant decision making bodies such as the graduate council or the faculty senate. The Board should oversee the periodic review of these units and evaluate the way in which their individual missions are integrated into the mission of the university.
2. Seek directors for centers and institutes who are able to create visibility and establish purposeful identity for the units, to manage interdisciplinary or multidisciplinary teams, and to integrate their unit into the mission of the institution. Today, a center director is often an entrepreneur with strong grant-getting capacities, a situation which may produce conflict in an institution if it is not handled in an integrated fashion.
3. Review policies on faculty joint appointments with centers and make these sufficiently flexible so that, for example, merit salary may be assigned on a basis equal to the department's even if the salary "pool" is smaller.

**Interdisciplinary Programs.** Interdisciplinary programs in such areas as women's studies; environmental studies; science, technology, and human values; or international studies have proliferated on many university campuses, and like the directors of centers or institutes, the directors of many of these programs face an essential disenfranchisement because of their lack of representation in governance structures. In 1983, a survey of interdisciplinary programs at Bowling Green State University discovered complaints about the minimal availability of faculty to teach in the programs, merit evaluations for those who do, and fair resource allocations. Directors have felt unsupported, isolated, and often unrewarded. A survey of interdisciplinary activity at other state-assisted institutions in Ohio revealed similar concerns (Baker and Marsden, 1986, p. 4), although only one institution was making a systematic effort to coordinate and develop the university's interdisciplinary programs. Bowling Green's response was to create the position of Coordinator of Interdisciplinary Planned Programs, to be filled by an Assistant Associate Dean of the College of Arts and Sciences wherein programs are located. This Coordinator chairs a council of program directors, administers resources, oversees program evaluation, and appoints

directors on the basis of recommendations of the advisory committees. A representative from the Interdisciplinary Program Council sits on the Arts and Sciences Council and another sits on the Council of Chairs. A special fund supports the release of faculty who participate in the development of innovative curricular options. Other supports include the encouragement of merit awards for faculty participating in interdisciplinary programs, the exploration of better policies to support joint appointments between departments and programs, and a change in tenure and promotion criteria to insure that credit for participation in the programs is provided in evaluation of personnel. Several summer institutes are also regularly funded for faculty wishing to work on interdisciplinary programs and a retreat for directors is held each fall. The Bowling Green administrative supports provide a model for the reintegration of these interdisciplinary programs, which can easily become isolated within the college structure.

**Making Connections: Learning Communities, Consortia, Groups, Centers, and Institutes.** Universities and colleges today experience many structural barriers to academic excellence in both research and teaching. In their book on learning communities, Faith Gabelnick, Jan MacGregor, Roberta S. Matthews and Barbara Leigh Smith note that the university today is often a meaningful educational community only in theory, while real community remains a nostalgic vision except at places like Reed, Bard, or St. John's College (1991, p. 9). These authors argue, I believe correctly, that the curriculum must assume responsibilities for building community formerly assumed by the college as a whole (p. 10). They believe that Alexander Meiklejohn's original concept of a learning community as a fully integrated program focusing on an interdisciplinary curriculum, and Joseph Tussman's program described in his book *Experiment at Berkeley*, still provide inspiration for the alleviation of "disciplinary diaspora" (p. 7).

The spirit of community interaction is, also, too often absent from faculty research enterprises. Faculty doing interdisciplinary research have great difficulty meeting other people outside of their department who might contribute to their intellectual program. Recently the Division of Humanities at the University of Chicago made a creative set of recommendations to help their faculty do original scholarship by creating opportunities for them to look outside their disciplines to restructure traditional tools and frameworks of questioning (Commission on the Humanities, 1990). Their proposed model is worth study. Chicago had for many years tried to address this matter by organizing Committees to support both graduate students and faculty in interdisciplinary work that could not be accommodated in departments.

The Chicago Committees were difficult to form, but also very difficult to dissolve once they were no longer viable. Committees can easily continue due to bureaucratic inertia, or because they begin to function as quasi-departments, particularly because they sponsor graduate programs (p. 3). The 1990 report considered making committees that are functioning well into departments with the power of appointment, or making some of them programs in departments.

The Commission at Chicago proposed three administrative mechanisms for improving interdisciplinary research (p. 4-5). The first proposal was for the formation of consortia among departments. For example, the departments of English and Romance or Slavic Languages might be linked by a European Literature Steering Committee to coordinate appointments among the departments and to sponsor lectures and conferences of common interest. The second proposal was to begin groups inspired by successful interdepartmental workshops focusing on graduate research. The groups would be temporary structures bringing faculty and graduate students together. Any gathering of faculty could designate itself a group to the Dean or to an appropriately constituted divisional committee. Groups might sponsor workshops, conferences or design programs of courses to supplement those available. One might, for example, have a Group on Seventeenth-Century Studies offering cross-listed interdisciplinary courses for students enrolled in the departments or even offering a minor field. The groups would be permitted a life of three to five years after which they would ask for renewal. Third, centers were proposed to bring in visitors, support leaves for faculty within the university, and hold research seminars with faculty and graduate students in the Chicago area. Fourth, the Commission proposed a Humanities Institute as a home for the consortia, groups and centers and to serve as a source of meeting ground and services to the community of humanistic scholars at the university.

In the future a variety of climates for change can support interdisciplinary development. We need only be careful custodians of our own recent past and retain good faith in our communities of faculty and students. A curriculum is after all a bond of social discourse, and it is natural for us to participate in the conversation of humankind.

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