

Self-study Report for Institutional Reaccreditation, 2000

New Openings for the Research University: Advancing Collaborative, Integrative, and Interdisciplinary Research and Learning

The following summarizes key findings and recommendations of four Working Groups that contributed to this self-study: the Working Group on Faculty; the Working Group on Graduate and Professional Studies; the Working Group on Research; and the Working Group on Undergraduate Teaching and Learning.

1. SUMMARY OF KEY RECOMMENDATIONS OF THE WORKING GROUP ON FACULTY

The Working Group brought together a diverse set of faculty with different academic backgrounds and different prior experience within the University. Many had direct experiences of interdisciplinary activities, but these ranged from within-discipline research and teaching collaborations to cross-departmental and cross-school and college activities. In addition, there were differences in degree and depth of experience and commitment to interdisciplinary activity generally, as well as differences in type of liberal arts discipline (humanities, social sciences, and sciences were all represented) and in professional school base (Medicine, Engineering, Law, Music, and Public Health were represented). Though the Working Group members brought diverse experiences to the group, it was composed entirely of senior faculty. To ensure representation of the experience of junior faculty, Deans, department Chairs and committee members were asked to suggest names for focus groups of junior faculty whose research or teaching were in any sense interdisciplinary. These focus groups provided important information to the Working Group. The Working Group was pleased by the breadth and enthusiasm of junior faculty participation in the focus groups.

Many who had been recruited to the University with expectations of interdisciplinary opportunities reported somewhat more difficulties than expected, including uneven support and mentoring. Many participants voiced mistrust of how the tenure process would work for them or distress about how they see it work for others.

As review of tenure and promotion practices was a part of the Working Group's charge, and as the Group's deliberations clarified the importance of those practices to the climate for interdisciplinarity on campus, the Working Group gathered information about promotion and tenure practices across units of the University and at peer institutions. The Working Group was struck by the diversity of promotion and tenure practices within and across the schools and colleges; virtually every specific practice recommended in this report is in place somewhere within the University. The Working Group was also struck by the contrasting consistency of promotion and tenure processes it found in peer public institutions.

All Working Group discussions were guided by a set of principles articulated by the Group at the outset, among them that all recommended actions should seek to enhance the overall academic quality of the University. Early discussions clarified that interdisciplinarity characterizes some research and teaching conducted by individuals and some that is collaborative; moreover, some interdisciplinary scholarship takes place within disciplines and some across them; finally, the interdisciplinarity of activities is sometimes difficult to assess from the "outside." Therefore, the Working Group felt it was

important to identify practices and procedures that should encourage and enhance interdisciplinarity in all of these senses, while at the same time respecting and supporting scholarship that is solely disciplinary. The Working Group recognized that recommendations for faculty taking part in interdisciplinary work should seek clear criteria for all units. The Working Group reviewed the prior reports of relevant faculty committees; its findings and recommendations are compatible in many respects with these reports.

The Working Group confirmed some common views about the role of interdisciplinary activities in faculty lives. Many faculty reported that collaborative and interdisciplinary work across fields provides renewal and stimulating fluidity in their careers. This form of work that links specializations is a high value for many senior faculty. The Working Group also confirmed that interdisciplinary and collaborative work is both supported and prevented by institutional practices: in some areas, things work well and are well-supported, but obstacles in other areas make border-crossing work difficult, onerous, and risky.

The Working Group recommendations are grouped into several areas.

1. Support faculty development with attention to career-stage specific issues affecting the climate for interdisciplinary activity. A core cluster of recommendations center on strengthening the overall faculty development process. These rest on three observations that came from the research conducted by the Working Group: 1) the University needs to follow through on commitments to facilitate the ability of junior faculty to do interdisciplinary work; 2) senior faculty can feel constrained and limited in their opportunities for interdisciplinary work because of initial commitments to their departments; 3) the University needs to allow renewal opportunities for faculty to develop interdisciplinary teaching and research. Key recommendations include:
 - Strengthen recruitment, orientation, and other processes that connect new faculty to the University and to their units.
 - Make third-year review a meaningful and important developmental milestone with clearly articulated procedures that ensure serious, frank review and helpful development feedback.
 - Create more mechanisms to facilitate faculty adjustment and flexibility in structuring research and teaching so that faculty can allocate effort to collaborative and interdisciplinary work.
2. Enhance confidence in promotion and tenure review process. The report organizes a model set of practices in a coherent sequence. Specific practices, however, must be evaluated on their own terms and within specific contexts. Key recommendations include:
 - Consider a layered sequence of review and recommendation for all tenure cases, locating responsibility and accountability across appropriate points of the institution.
 - Adopt more generally an ad hoc committee model for first-level review that includes a member from outside the tenure-granting unit.
 - Bring the candidate into a position of responsible involvement at each stage, with responsibility to review and comment on the dossier, reports, and evaluations.
 - Improve procedures for making and managing joint appointments.

- Improve data systems for tracking faculty joint appointments.
3. Support leadership training for Chairs and Directors. The interdisciplinary interests of faculty complicate the work of both Chairs and Directors, who need better preparation in University-wide practices and issues.
- Provide training for Chairs and Directors that will enable them to work more effectively with other units across the University.

II. SUMMARY OF KEY RECOMMENDATIONS OF THE WORKING GROUP ON GRADUATE AND PROFESSIONAL STUDIES

The Working Group was particularly diverse, including representatives from many graduate and professional programs. The report confirms the disparate nature of these programs. Members found that about half of all graduate and professional degree students are in programs administered by Rackham, and that coordination and communication among the units that manage these diverse programs needs to be strengthened. All programs share a challenge in finding a balance between broad and deep knowledge, and in guiding students between particular projects and multiple relevant fields of knowledge. The Working Group identified a need to both encourage experimentation in graduate and professional education, and to evaluate the effectiveness of border-crossing programs of advanced study.

Faculty recognize that some of the most outstanding students pursue interdisciplinary training and research, tending to be highly creative, ambitious, and determined. Much interdisciplinary training takes place within discipline based programs. Enrollment in interdisciplinary and dual degree programs in the aggregate are roughly stable, although there are shifts among such programs, and many have been added in recent years. Much interdisciplinary work is done in disciplinary departments, and the Working Group is persuaded that this kind of work has been on the increase during the past decade. Newer programs with fewer resources face problems in supporting students and organizing curriculum, while older, more stable and well-resourced programs have fewer difficulties. The latter are important initiatives for refashioning graduate and professional training as job markets are changing. Faculty interest plays a determining role in the success of interdisciplinary degree programs; faculty are challenged, however, to find time to provide leadership and mentoring for these programs that contribute so much to the University.

1. Create better Communication, coordination and information.

- Consider a wider coordinating role for Rackham in serving graduate and professional students interested in interdisciplinary work.
- Establish an office to serve as a clearinghouse for students and faculty involved in border-crossing work.
- Encourage and support formal communities of students and faculty interested in subjects that are multidisciplinary in nature.
- Develop a longitudinal study of academic and professional student careers to measure the contribution of interdisciplinary training to success in a changing job market.

2. Management of interdisciplinary and interdepartmental graduate and professional programs.
 - Encourage interdisciplinary programs to develop clear vision, plans, and goals.
 - Review and evaluate interdisciplinary programs with respect to their level of activity, purpose, and effectiveness.
 - Ensure accountability by establishing, preferably through Rackham, clear lines of authority for interdisciplinary programs.
 - Reward faculty who provide 1/ "out-of-department" mentoring for interdisciplinary students.
3. Support faculty leadership in the development of interdisciplinary and interdepartmental programs.
 - Encourage and reward faculty participation in graduate programs that cross borders of disciplines and departments.
 - Provide recognition of the importance faculty contributions to interdisciplinary work by facilitating faculty mobility across disciplines, especially on a temporary basis.
4. Steps to encourage interdisciplinary and interdepartmental programs and training.
 - Make funding available from a central site for cross-unit and collaborative teaching.
 - Coordinate development of multi-year packages for interdisciplinary programs that take into account time-to-degree concerns, and take other steps in support of border-crossing graduate and professional programs.
 - Develop pilot programs to facilitate interdepartmental initiatives such as standing research seminars that bring together faculty, graduate, and professional school students; and cross-disciplinary dissertation workshops.

III. SUMMARY OF KEY RECOMMENDATIONS OF THE WORKING GROUP ON RESEARCH

The Working Group is persuaded that interdisciplinary and collaborative research have become increasingly important for the University over the past decade, and that this trend will continue. Such research takes place in many forms and at many levels of complexity and scope of interactions, from sponsored research of collaborating teams of specialists to interdisciplinary work of individual scholars. Strength is distributed throughout the University. The Working Group found that while some individual scholars may pursue border crossing work without impedance, this experience is not generalizable, and many faculty and research units report difficulties and frustration in negotiating the cross-unit relationships that are indispensable to some of the most productive research.

The number of research units has doubled during the past decade; these are incubators of some of the very best research activity. Many senior faculty affiliated with these units, whether formal or less structured, see them as having enormous intellectual importance for their work. Junior faculty, however, can be discouraged from interdisciplinary research at a very important moment in their careers. Difference in missions and roles within the University's structure can pose strains between academic units and border-crossing research units. The Working Group is convinced that the University must find ways at every level to stimulate collaborations and interactions across discipline and appointment home. The possibility for faculty to take part in work in different parts of the University to develop new research is part of Michigan's distinctiveness. The University should seek to

expand these openings in order to maintain its reputation as one of the premier academic and research institutions in the country. Enhancing connections among investigators will enable Michigan to use its combined strength to the greatest advantage.

1. Supporting faculty excellence and empowering research connections.

- Support efforts of faculty to put together informal, flexible networks and reading groups that bridge disciplines and appointing units.
- Develop ways for faculty to have more flexibility in assigning a portion of their effort to research units or to other schools and colleges, either through direct swaps or through centrally-coordinated arrangements for compensation to the home unit.
- Develop Distinguished University Professorships to promote and reward excellence in connective research and teaching.
- Integrate interdisciplinary research more effectively with efforts to develop new paths for undergraduate learning and graduate and professional training.
- Develop ways for research units to be more effective partners with academic units in making faculty appointments.

2. Strengthening administrative coordination.

- Build institutional planning and coordinating capabilities by giving faculty stronger roles in an enhanced Research Council of the Office of Vice President for Research.
- Include coordination among the Provost, OVPR, and Rackham.
- Give thought to how allocations of indirect costs for sponsored research awards can better take into account the contributions of cross-cutting research units.
- Consider identifying several core areas of interdisciplinary research (in addition to the Life Sciences Initiative of the University) as priority targets for central development fund-raising.
- Improve information-gathering and reporting on interdisciplinary research activity.

IV. SUMMARY OF KEY RECOMMENDATIONS OF THE WORKING GROUP ON UNDERGRADUATE TEACHING AND LEARNING

The Working Group looked at how undergraduate learning is structured across the University, and sought to identify models of learning and teaching that connect different disciplinary perspectives. The Working Group was guided in its work by a concern to see how undergraduate education might keep pace with the new ways in which faculty are organizing cross-disciplinary research. The Working Group prepared by convening some discussions among undergraduates and by taking a look at what other peer institutions are doing. It found much common ground with prior University reports.

The Working Group learned that while students are not advocates of interdisciplinary learning as an abstraction, they have enthusiasm for integrating what can be a refracted undergraduate experience. Many students tend to make rather similar kinds of choices in fashioning a course of study, and are not well served by the intellectual diversity the University supports. While many students have identified goals for themselves after graduation, many do not have an effective understanding of how they might connect their experience with the opportunities of a major research institution. Students have few

chances to contextualize their choices and academic experience within the University, or to reflect on broader questions of the production of knowledge and the organization of study and learning.

Interdisciplinary teaching is of great value to the University. The diversity of faculty interests allow extraordinary opportunities for innovation and connection across units and among different levels. In general, while the University provides little reward for faculty to develop such opportunities, significant numbers of faculty see the value of this teaching both to the institution and to their own scholarship.

1. Key recommendations addressing general institutional issues:

- Address and remedy specific barriers to collaborative teaching by faculty from different schools and colleges, such as cross-listing practices, course scheduling, and obstacles to out-of-department effort.
- Encourage and support collaborations in developing courses of study that cross boundaries of academic units and are open to students from several schools and colleges.
- Develop ways to assess learning outcomes of interdisciplinary teaching and to evaluate contributions of these opportunities to the undergraduate experience.
- Develop capabilities in the new M-Pathways data environment to track and understand the impact of interdisciplinary courses and programs of study.

2. Key action items for particular steps to be taken:

- Create thematically-organized clusters of courses that allow students to explore how different disciplines approach common topics and themes, and develop and evaluate other border-crossing experiments.
- Pilot a program that allows sophomores an opportunity to reflect on their academic goals and on the different ways in which the University organizes learning.
- Facilitate a system of internal fellowships for faculty, allowing duty out-of-department to be taken elsewhere in the University for the purpose of developing new teaching or courses of study.