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COMMENTARY

Why the Disciplines Still Matter



Michael Morgenstern for The Chronicle

By $Jerry A. Jacobs \mid$ MAY 27, 2014

hese days, the term "interdisciplinary" is increasingly assumed to be synonymous with "innovative." The popular notion seems to be that the solutions to real-world problems require the insights of cross-trained researchers, or at least interdisciplinary teams. Indeed, interdisciplinary initiatives are

springing up on campuses everywhere.

For example, Arizona State has reorganized its college of arts and sciences along interdisciplinary lines, and Brown University's program to support an extra year of graduate interdisciplinary training, which received a \$2-million grant from the Andrew W. Mellon Foundation, is in its second year.

In all of this enthusiasm for reform, one might ask what, if any, role there might be for established liberal-arts disciplines. In fact, those disciplines, which have been the basic organizing principle for American universities since World War II, have long been embedded in an interdisciplinary web and are crucial to its viability.

In institutional terms, interdisciplinary research centers—and the top 25 research universities in the United States have an average of 100 of them apiece—complement rather than compete with discipline-based departments. Such institutes and centers are thus far more numerous than are liberal-arts disciplines, and already provide many opportunities for researchers and scholars to come together around (often applied) topics of common interest.

More important, in intellectual terms, ideas and currents flow rapidly between fields. It is easy to trace the rapid diffusion of ideas, statistics, methods, and the use of particular equipment and techniques. In the social sciences, statistics like survival analysis and techniques like panel studies are used by researchers in many different fields. The humanities also have shared many developments, whether broad intellectual currents such as poststructuralism or the new methods and technologies of the digital humanities.

Teaching is also surprisingly interdisciplinary. In a series of surveys dating to the 1990s and conducted by the Higher Education Research Institute at the University of California at Los Angeles, roughly 40 percent of faculty members report having offered an interdisciplinary course within the previous two years. Counts of course offerings reveal the substantial fraction of courses that are cross-listed between fields. And the basic premise of American undergraduate education is generalist in orientation: Liberal-arts students in the United States continue their general education before adopting a professional or academic specialty longer than do students in many other countries.

Some critics claim that disciplines can become isolated silos in which professors simply indoctrinate their students with tired old ideas. The very structure of disciplines, however, makes them dynamic. While disciplines do provide some shelter from the need to deliver immediate payoffs like the next patented product, there is competition within and between fields. Everyday academic politics is often the manifestation of intradisciplinary competition among a sometimes bewildering array of specialties that contend with one another for students, recognition, and sessions at national conferences. While discipline-based scholars cooperate in many contexts, including universitywide committees, they also compete with colleagues in other fields for faculty positions, lab space, research grants, and intellectual authority.

The basic liberal-arts disciplines such as biology, economics, and history are found in most colleges and universities, and the ubiquity of those fields suggests their intellectual breadth and enduring fruitfulness. In fact, the only way a field is likely to be represented so generally is by having a broad focus. Disciplines are broad enough to be represented on campuses across the country (and frequently around the world) while, ironically, interdisciplinary institutes and centers are often so specialized that they have few if any counterparts in peer institutions. In a world with more than 27,000 peer-reviewed academic journals, an academic division of labor is inevitable.

Interdisciplinarity does little to overcome the need for specialization. In the course of my recent research I identified hundreds of new academic journals that could best be described as "specialized interdisciplinary" outlets—that is, connecting research and scholarship across fields but targeting a very narrow domain. Interdisciplinary research sites are often discrete niches on the boundary between two fields.

Major social challenges such as global warming are not the exclusive property of any discipline, yet it does not follow that the solution requires us to train interdisciplinary researchers. On the contrary, the intellectual breakthroughs needed to tackle those problems are most likely to be produced not by generalists but by a diverse array of specialists. For example, after September 11, 2001, "homeland security" became one of the nation's top concerns, and many scholars endeavored to help make our country safer and more secure.

Yet homeland security is not a single domain, and a multiplicity of specialists contributed in diverse ways to dealing with this set of problems. Pennsylvania State University, for example, secured funds for no fewer than 21 homeland-security research centers that

focused on topics as diverse as bioterrorism, cybersecurity, international terrorism, first responders, early-warning systems, and protective technologies, among many others.

While researchers in each of those fields (and many others) may be aware of developments across the spectrum of homeland-security topics, no single individual and no research team can be on the cutting edge of all the relevant research. Social issues on this scale are best thought of as multifaceted, with advances requiring a wide array of both basic and applied research. Some of this scholarship will no doubt be interdisciplinary in nature, but much will remain highly specialized and based in established fields. I expect the same pattern to hold for many other problems, such as climate change and global health, as well.

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