

Interdisciplinary Programs

ORIGINS, ISSUES, TERMS

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What is Interdisciplinarity?

Interdisciplinarity:

Definition:

- Interdisciplinary teaching and research integrates ideas and methods from two or more disciplines, seeking to create a new, intellectually coherent whole.

This distinguishes it from:

- Multi-disciplinary – in which ideas and methods from at least two disciplines are presented but not integrated, at least as a major intention.

And both are distinguished from:

- Cross-disciplinary in which two or more disciplines are used to compare approaches to a single set of problems or readings.

Origins, 1

The current array of Academic Disciplines took shape at the end of the 19th century.

There were broad arrays and programs at that time, but not disciplines as we currently conceive of them.

In the 1890s and 1900s, disciplines formed as smaller, and often intellectually coherent, subsets of the arrays and programs of the academy, as for example (to use my discipline as illustration) political science. The national organization, the American Political Science Association, was formed in 1903. It was the result of the division of PPE (Philosophy, Politics, and Economics) into its sub-component pieces.

Origins, 2

Disciplines reflect specialization and a division of labor, particularly critical as there was an explosion of information, then, as now, and the specialization was generally along lines that had proven useful in the past.

It also reflected industrialization with education coming to have some of the same features of specialization and a division of labor as industry was valuing.

What made disciplines lasting divisions was the development of a teaching and research infrastructure, a series of courses, disciplinary organizations, conferences, journals, book series, rules for evaluation of merit and for allocation of rewards, etc.

Most important of all was the development of peer review as a basis for merit decisions, and the trust that developed among the disciplines in recognizing the value and effectiveness of peer review.

Indeed, the trust that developed among disciplines in the academy over peer review became a fundamental feature for aggregating disciplinary achievements and rewards – and hopefully knowledge – to the larger academy outside the discipline, and then beyond the academy to the larger public. Or, at least knowledge went to the larger public when everything worked just perfectly.

Origins, 3a

The first move toward interdisciplinary research appeared almost immediately after the formalization of disciplines.

The **motivation** for interdisciplinary work is what appeared most immediately. It sprang (and continues to spring) from the fact that, while many interesting and important social problems fit nicely within one discipline's boundaries (indeed that is why disciplines divided up the intellectual whole of the academy as they did), other interesting and important social problems did not (and do not) fit within one discipline's boundaries.

The **means** for interdisciplinary work began to appear almost immediately as well. The Russell Sage Foundation was founded in 1907 and immediately provided significant support for the Pittsburgh Survey (1907-08), which was a multi-disciplinary investigation into the problem of the cities given high rates of immigration. Russell Sage then initiated many more projects. The Laura Spellman Rockefeller Memorial Fund (and then the Rockefeller Foundation) took the lead in the 1920s.

Public-private partnerships appeared in the 1920s, but the government, through the National Science Foundation and much more in the 1950s and 1960s, became the driving force for interdisciplinary work. Today the government remains the largest actor, along with the academy. But it is the case that private foundations also matter considerably, perhaps even beyond their relative share of dollars provided.

The **purpose** was to address pressing social problems and (perhaps) to achieve progress on scientific problems, but almost always as a means for solving the social problems. The Cold War made the "social problem" largely a series of national problems for contributing to the Cold War, through what later became called "soft power" in the 1950s and 1960s. These justified the move of the federal government into providing significant funding. Through NSF especially, solving scientific problems became an end in themselves, for their role in maintaining the U.S. as the world leader.

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Origins, 4

In this era, three major interdisciplinary initiatives took shape that resulted in long-term change in the academy (at least in the social sciences), often by addition to the disciplines. It is helpful to think of them as one imagines what the pushes toward new interdisciplinary efforts today might suggest not just for the immediate future but also for the long term future in the academy and nation.

Public Policy was, from the beginning, at the center of interdisciplinary efforts, as public policy was inherently multi-disciplinary. A focused approach on it led to today Public Policy having many of the characteristics of a discipline – formal academic organizations, journals, book series, conferences, undergraduate and graduate degree programs. Early on, most public policy programs hired a mixture of disciplinary Ph.D.s (Economics, Political Science, many others) and “professors of the practice.” Today, many new professors are hired from the ranks of those with Ph.D.s from public policy programs.

International Relations programs and Area Studies are the other two initiatives of this era that have had similar long-lasting impact on the shape of the academy.

Origins, 5

In the 1960s and 1970s, other major interdisciplinary initiatives took shape that resulted in long-term change in the academy, also often by addition to the disciplines. Here are two examples.

Identity – the development of Women’s and Gender, Afro-American, Latino/a, and Asian and Asian-American Studies, inter alia, developed more from the “bottom up” as pushed by movement politics of this period, and by students and professors (often veteran’s of these movements) who sought recognition of their concerns on campus.

Environmental studies – as I write this on Earth Day, this comes from the fusion of a social movement with some form already existent on many campuses. Duke, for example, created its Nicholas School of the Environment from its (highly successful) forestry department.

These differ both as to nature of their origin, compared to Public Policy, International Relations, and Area Studies, and to their often steady development, as “academic respectability” emerged in time from what were often political contests for their formation.

Keys to Success, 1

General Principles:

- The strongest interdisciplinary programs are drawn from the strongest disciplines.
- Absent enthusiastic faculty buy-in, top-down administration rarely works.
- Necessary conditions:
 - Faculty who actively want to participate, a priori.
 - Administrators who focus on removing obstacles.
 - Resources that make interdisciplinary interaction physically convenient are more important than those that pay for things.
 - Research funding is the last piece (although, of course, often the most important, especially for lasting success).
 - Teaching needs require few dollars (although, of course, giving, say, full course equivalence to multiple faculty is expensive).
 - Finally, when faculty are asked to commit to a project over time, they need consistency in program and its features.
 - Undergraduates only need interesting things to take or do, they care little about whether it is disciplinary or interdisciplinary work.
 - Graduate students and junior faculty need risk reduction strategies from administrators.

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 - Graduate students and junior faculty need risk reduction strategies from administrators (a paradox of interest versus costs and risks).

New Forces Toward Interdisciplinarity

External (and yet endogenous as well) pushes toward new interdisciplinary initiatives.

In the social sciences, I would point toward three that have a substantive orientation:

Neuroscience, neuropsychology, neuroeconomics.

Genetics, evolutionary psychology, genetics and politics.

Environmental studies, climate change, and “motivated reasoning.”

Each is nearly inherently interdisciplinary. Each provides problems and opportunities that cut across not just disciplines but divisions. Working across divisions is, in general, significantly harder than working within any one division, even in an interdisciplinary context. Thus, these three offer new and heightened problems to solve – and opportunities for advances.

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In the social sciences, I would point toward three that have a methodological bent:

Big data

Networks

Textual Analysis

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The hope is that methodology cuts most easily across disciplinary and even divisional boundaries, so the joining of these with the substantive problems, above, offers one avenue for success .

Multidisciplinary Bachelor's Degrees

Essentially and often inherently teaching focused, often at the undergraduate level.

May be cross-disciplinary or multi-disciplinary, rather than inherently interdisciplinary.

Indeed, its virtue may be that it is not interdisciplinary – that is, does not seek to create an intellectually coherent whole.

Thematic Interdisciplinary Degree Programs

Typical examples include women's studies and various minority programs.

Often generated by interest among students themselves.

Often centered on teaching, with serious research components.

Are typically multi-disciplinary may well aspire to having an intellectually coherent whole.

They, like, say, public policy, thus may develop into proto-disciplines, depending more on the development of the organizational infrastructure of a discipline than on the motivation of the participants.

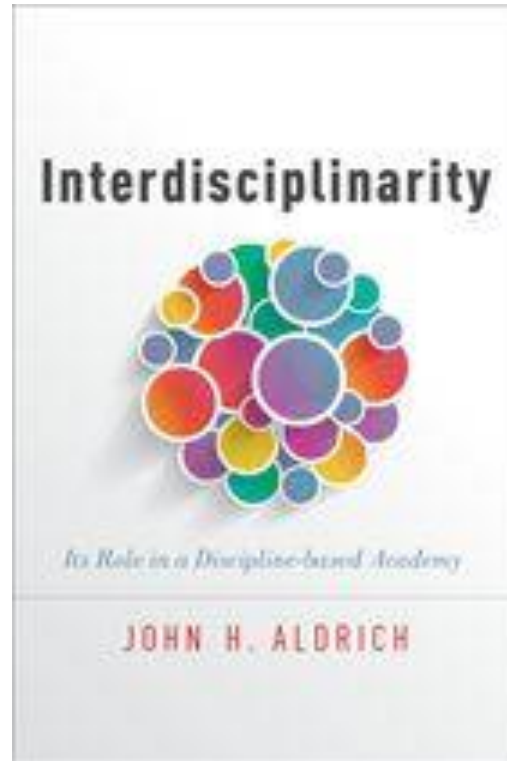
Interdisciplinary Research and Graduate Programs

Often faculty and/or external funding agency generated.

Typically are intended to be truly interdisciplinary from the outset.

Their success depends upon the continuing support of faculty and administration in the college or university, first, and, secondly, upon the long-term development of a sufficiently large set of peers to make peer review viable, along with the development of the organizational infrastructure nationally (and internationally).

For Further Information



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