

1 Why Study Interdisciplinary Conversations?

SOME YEARS AGO, A COLLEAGUE AND I HAD A RESEARCH project that combined history and economics to explain how and why elementary school teaching became a woman's occupation in the United States. Midway through the project, at a team meeting, his research assistants and mine both presented analyses. His students were excited. They had found several diaries, which they used to understand teachers' reasons for entering the profession. They brought the diaries to the meeting and handled them lovingly. But my students were dismissive. Trained as quantitative researchers who use large data sets, they felt the diaries were unreliable and biased sources, representative only of those teachers who happened to write diaries.

Later in the meeting, the tables were turned. My students had large piles of computer output, complex statistical regressions on economic and educational data from several states. The history students argued that the quality of these nineteenth-century data was poor and said they didn't trust them. And besides, the regressions explained only 50 percent of the variance. Could you really think you'd explained something when half the explanation was still unknown?¹

My historian colleague and I explained (again) that by using both quantitative and qualitative methods we were developing a richer understanding of the feminization process, that while we agreed that both methodologies had flaws, each contributed something of value to solving the puzzle. It was a hard sell.²

The questions raised by this story are at the heart of this book. What makes interdisciplinary conversations so difficult? What makes them fruitful?

The debate about barriers to interdisciplinarity is currently highly polarized. Columbia religion professor Mark C. Taylor maintains that disciplinary departments fatally impede interdisciplinarity. His solution? Abolish departments.³ Sharply countering this view, sociologist Jerry Jacobs of the University of Pennsylvania contends that universities are doing a fine job in accommodating the flow of ideas across disciplines and need put in place little more than what already exists.⁴

Taylor and Jacobs are both wrong. We should *not* abolish departments and the disciplinary training they provide. But to nurture interdisciplinarity, faculty and administrators could go much further than they currently do.

The extraordinary complexity of knowledge in today's world creates a paradox. Its sheer volume and intricacy demand disciplinary specialization, even subspecialization. Innovative research and scholarship increasingly require immersion in the details of one's disciplinary dialogue, and departments are ideal settings for helping faculty to do this. However, departments limit the ability of academics to tackle problems that transcend disciplinary boundaries. The difficult task for faculty and administrators is to retain the benefits of disciplinary specialization while at the same time fostering interdisciplinary collaboration.

Most discussions about barriers to interdisciplinarity are about funding, the academic reward system, and the difficulties of evaluating research from multiple disciplines. This book is about different barriers, barriers that are rarely recognized let alone discussed: disciplinary habits of mind, disciplinary cultures, and interpersonal dynamics. It is also about what faculty members and administrators can do to overcome these barriers to create productive interdisciplinary conversations.

Objectives of the Book

The book analyzes six complex and sometimes stormy faculty seminars at three research universities that sought to use the seminars to foster conversations across disciplines. The account provides a sober reality check for those interested in doing, encouraging, and funding interdisciplinary work.

In 1990, in the conclusion to her landmark book *Interdisciplinarity: History,*

Theory, and Practice, Julie Thompson Klein noted our limited understanding of interdisciplinary work and the need for “compiling narratives in order to understand how interdisciplinary work is actually done.”⁵ In the two decades since her book was published, there have been only a handful of such hands-on studies.⁶ In its 2005 report on facilitating interdisciplinarity, the National Academy of Sciences repeated what Klein said earlier: “Social-science research has not yet fully elucidated the complex social and intellectual processes that make for successful IDR [interdisciplinary research]. A deeper understanding of these processes will further enhance the prospects for creation and management of successful IDR projects.”⁷ This book adds to our understanding of the processes by which faculty talk to one another across disciplines.

However, despite the rich data provided about interdisciplinary interactions, this study is limited, as are all case studies, by the relatively small number of faculty interviewed, the small number of seminars studied, and reliance on self-reports. Moreover, all six seminars took place at three private research universities in the United States, not necessarily representative even of private American research universities, let alone of other types of institutions in the United States or elsewhere.

Yet all faculty everywhere are captives of their disciplinary cultures and habits, which, while they permit focus and access to deep knowledge, constrain interactions with colleagues from other fields. This close reading of the pleasures and pitfalls of interdisciplinary exchange will resonate with faculty and administrators at all types of institutions worldwide.

In this book, I do not test a theory. Rather, I engage in an exploratory investigation of events in interdisciplinary conversations, an attempt to explain those events, and an analysis of the factors that appear to make the conversations more enjoyable and productive. I also examine the follow-up activities necessary for participants and institutions to garner the full benefits of interdisciplinary conversations.

At a time when more and more clarion calls for interdisciplinarity are being issued, this book furthers our collective understanding of the dynamics, rewards, and challenges of conversations across disciplines. Although it deals with interdisciplinarity more broadly than studies of team science, it has the same objective as those studies: to examine collaborations across disciplines in order to understand the “circumstances that facilitate or hinder . . . effectiveness.”⁸

Faculty who participated in the six seminars said they were excited by the

possibility of conversing regularly with scholars from other disciplines; they initially thought that because they would be talking to colleagues with the same level of education, employed in the same job at the same university, they could easily converse with one another on intellectual matters. But it turns out that talking across disciplines is as difficult as talking to someone from another culture.⁹

Differences in language are the least of the problems; translations may be tedious and not entirely accurate, but they are relatively easy to accomplish. What is much more difficult is coming to understand the way colleagues from different disciplines *think*—their assumptions; concepts; categories; methods of discerning, evaluating, and reporting “truth”; and styles of arguing—their disciplinary cultures and habits of mind. The difficulty my students and those of my historian colleague had with interdisciplinary work was not that they did not understand one another’s language; it was that they did not accept one another’s fundamental beliefs about how to ascertain knowledge.

Moreover, the students working on my research project and many of the faculty in this study were neither open-minded nor patient. As academics, they had been taught to put skepticism and criticism first. Despite their expressed interest in learning across disciplines, they were not willing to fully enter into another cognitive world, suspending judgment until they obtained some mastery of strange ideas and methods. When new ideas and ways of thinking did not fit fairly easily into their own cognitive structures, they shut them out. This tendency was mitigated only when the seminar leader explicitly structured the series of conversations to focus on commonalities, contrasts, and synergies across ways of knowing.

Reading this book may well change your thinking about interdisciplinary work. You will learn that talking to colleagues across disciplines is not for the faint of heart, that it is more difficult than most people imagine. You will learn that engaging in interdisciplinary conversation is not always a positive experience, that unless participants are open-minded and dialogues well structured, the conversations can be boring, confusing, unpleasant, or downright hurtful. You will learn that interdisciplinarity doesn’t always lead to new ideas; sometimes it simply rearranges the deck chairs. But you will also discover that interdisciplinary conversations have great potential and that there are several strategies and practices that increase the chances that they will be productive.

How you read this book may well depend on your own disciplinary background. If you are a historian, you may wonder why there is so much fuss

about interdisciplinarity. Doesn't everyone use material from other disciplines in their work? If you are bewildered by postmodernism, or simply opposed to it, you may strongly identify with some opponents to it, as depicted in Chapter 4. If you believe that conversations should be allowed to unfold rather than be structured from the outset, you may be sympathetic to the style of leadership described in that same chapter. Whatever your reactions, they likely stem, at least in part, from your own disciplinary culture and habits of mind; watching your responses may well give you an immediate sense of what these concepts mean.

Interdisciplinarity at Research Universities

At the end of the 1990s, many research universities, private foundations, and government agencies began to increase their interest in interdisciplinarity. And since 2000, in part because of grants from foundations and government agencies, research universities are even more active in promoting interdisciplinary work; many of them have made interdisciplinarity a strategic goal.¹⁰ For example, in 2004, Stanford made interdisciplinary research a strategic goal of its five-year plan, announcing three major interdisciplinary research initiatives in human health, the environment, and international relations.¹¹ Also in 2004, the University of Southern California launched a strategic plan calling for more interdisciplinarity, including promises to create "mechanisms that remove structural disincentives to such collective efforts."¹² In 2008, Purdue joined the chorus: "Through its new strategic plan, Purdue will set the pace for interdisciplinary synergies."¹³

The 2004 plea by Vartan Gregorian, then president of the Carnegie Corporation, was typical of many foundation executives and program officers:

The complexity of the world requires us to have a better understanding of the relationships and connections between all fields that intersect and overlap—economics and sociology, law and psychology, business and history, physics and medicine, anthropology and political science.¹⁴

And a 2003 National Institute of Medicine report argued for more integration not only within the sciences but between the sciences and the behavioral and social sciences:

Some parts of the scientific frontier require . . . the mobilization of interdisciplinary research teams. . . . Increasingly, investigators will need to integrate

knowledge. . . . And greater prominence must be given to research in the behavioral and social sciences.¹⁵

Two foundational beliefs motivate this increase in interest in interdisciplinarity: first, that finding effective solutions to complex problems requires collaboration by faculty from multiple disciplines; second, that faculty interchange across disciplines promotes creativity and hence increases the pace at which knowledge can move forward. In Chapter 2, we shall examine in greater depth the theory and evidence behind the idea that cognitive diversity is associated with creativity.

The Faculty Seminars and This Study

Atlantic Philanthropies was an early adopter of the idea that interdisciplinarity is advantageous for universities, and during my term there as the program officer for higher education from 1998 to 2000, the foundation made grants to three research universities to fund six interdisciplinary faculty seminars (two at each university).¹⁶ To protect the anonymity of the faculty I interviewed, I call the universities Washington, Adams, and Jefferson.

Each seminar ran for one academic year, and the universities used their funding to hire postdoctoral fellows (postdocs), relieving most faculty participants of one course. Postdocs were also invited to participate in the seminars. The underlying rationale for the seminars came close to anthropologist Clifford Geertz's notion that interdisciplinary colloquia provide a means for faculty members from different disciplines to come together and teach one another about their fields:

The hard dying hope that there can again be (assuming there ever was) an integrated high culture . . . has to be abandoned in favor of the much more modest sort of ambition that scholars, artists, scientists, professionals, and (dare we hope?) administrators . . . can begin to find something circumstantial to say to one another again . . . one in which econometricians, epigraphers, cytochemists, and iconologists can give a credible account of themselves to one another.¹⁷

The aspirations for the conversations were modest: to provide an opportunity for faculty to talk to one another about their disciplinary perspectives on a variety of topics. The hope was that these conversations would lead participants to develop new interdisciplinary courses and perhaps, eventually, interdisciplinary research proposals. There were no products that the group

as a whole was asked to create, except intellectual camaraderie and a sense of being a part of a university (as opposed to a department).¹⁸

The seminars differed by size, participation of high-level administrators, and leadership. They also differed in breadth of focus and the number of different fields from which faculty were drawn. (For details, see Appendix Table A-1.)

At Washington, the seminars were about the social sciences, and the vast majority of participants were from social science fields. The president and the provost, both of whom were humanists, were participants in both seminars. In the first year, the conversations were about the social sciences per se and were used not only to explore the social sciences, but also to convince the president and the provost that the social sciences at Washington should receive additional financial resources and that the university should fund an interdisciplinary social science research program.

In the second year, Washington's conversations were focused on inequality. This time, the seminar was attended not only by the president and the provost, but also by a vice-provost from the humanities. However, the conversations were not designed to persuade these administrators, but rather solely to examine the ways in which each of the social sciences understands and studies inequality.

At Adams, the conversations were about science studies in the first year and ethics in the second year. Adams administrators who wrote the grant proposal hoped that faculty conversations on these subjects would lead not only to collaborative courses, but also to the development of university programs in those areas. The Adams seminars were smaller than the others; they were the only ones not led by a faculty member and the only ones in which no administrators participated. In the science studies seminar, faculty from the sciences, social sciences, and humanities were all represented. In the ethics seminar, most attendees were from the humanities; and the ethics seminar was the only one of the six that included junior faculty.

The topic of Jefferson's first seminar was consilience, how various fields can be brought together; the topic of its second seminar was representation, how various fields represent reality. Jefferson's seminars had even more administrative participation than did Washington's. Also, the Jefferson seminars were the only ones that included faculty from the arts as well as those from the sciences, social sciences, and humanities. Administrators at Jefferson hoped the seminars would serve to introduce their star faculty from various fields to one another and that the conversations would serve to tie faculty more closely to the university.

After I left Atlantic Philanthropies and returned to Stanford, I continued my conversations with seminar leaders and visited one seminar session at each university. In effect, the seminars provided six fishbowls, and I wanted to understand what happened in them. In 2002, I applied for and received a grant from the Ford Foundation to interview a sample of faculty and write a book about the seminars. I know of no other such detailed study of interdisciplinary conversations among faculty at a research university.¹⁹ (Details of the study are in the Appendix.)

What Makes Interdisciplinary Conversations Fruitful?

From the perspective of Atlantic Philanthropies and the administrators who wrote the grant proposals, the conversations would be deemed fruitful if they resulted in new interdisciplinary courses and perhaps, eventually, collaborative research projects. But faculty interviewees found their seminars productive in other ways. They recollected with great pleasure conversations that engaged them in serious intellectual play and reminded them of why they had become academics in the first place. They also reported satisfaction with new intellectual insights, enhanced intellectual self-esteem, and new relationships with colleagues from other fields.

The affective aspect of conversations figured prominently in assessments of the conversations' success.²⁰ Participants appreciated conversations that were infused with productive conflict, conversations that were neither uncivil nor dull. Although some were able to glean intellectual insights from conversations even when they were conflict-ridden, they did not judge such conversations to be fruitful overall.

In evaluating the success of the seminars, I use both the criterion in the original grant proposals—the creation of new interdisciplinary courses and research proposals—as well as criteria faculty used to assess their own experiences: providing opportunities for serious play, developing new intellectual insights, gaining enhanced intellectual self-esteem, and meeting new colleagues from other disciplines.

It is not necessarily a good thing to organize interdisciplinary conversations. They may become destructive, creating deep resentments and fostering distaste for interdisciplinary dialogue. Prerequisite to a series of fruitful conversations are a mix of intellectually diverse participants who practice open-mindedness and interpersonal civility and a leader who

carefully structures the sessions toward a search for intellectual common ground.

Plan of the Book

This introductory chapter explains the book's focus, introduces the subject of interdisciplinarity at research universities, describes the study on which the book is based, and discusses measures of success. Chapter 2 examines the concept of interdisciplinarity and its rationale. What is interdisciplinarity? For that matter, what is a discipline? What are the arguments in favor of disciplinarity? What are the barriers to it?

The four chapters in Part 2 explain and analyze the details of what happened in the conversations. Using theoretical frameworks from such scholars as Clifford Geertz, Howard Margolis, Pierre Bourdieu, Elliot Eisner, Dell Hymes, Helen Schwartzman, and Peter Elbow, we will examine how cultural practices and habits of mind, as well as interpersonal dynamics, contributed to the difficult dialogues and at how and why some conversations avoided problems that surfaced in others.

Part 3 looks at what we have learned in this study. Chapter 7 argues that outstanding leadership is one of the most important ingredients for the success of interdisciplinary conversations. The chapter applies the work of several scholars of leadership to examine the techniques of the various seminar leaders and summarizes the skills that differentiate successful from less successful leadership.

Chapter 8 looks at the outcomes of the conversations. It introduces the concept of serious play to explain the intellectual enjoyment and insights that many faculty got from their interdisciplinary exchanges. It also examines the likely reasons why the goal of creating joint teaching and research projects was not met.

Chapter 9 reviews the barriers to interdisciplinarity, the social science explanations for these barriers, and the successful strategies used by some leaders to mitigate these barriers. It concludes with an analysis of the centrality of open-mindedness to successful interdisciplinary dialogue. Returning to Chapter 3's discussion of Peter Elbow's distinction between the doubting game and the believing game, I argue that the monopolistic hold of the doubting game in academia (and in business as well) seriously inhibits our ability to engage with ideas from other fields. In addition to having excellent lead-

ers who know how to establish an atmosphere of trust among participants, maximizing the fruitfulness of interdisciplinary conversation requires that participants listen to one another nonjudgmentally, seeking to fully absorb unfamiliar ideas and methodologies before attempting to evaluate or criticize them.