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Bridging the Disciplines

Interdisciplinary Discourse and Faculty Scholarship

The Luce Seminar is . . . almost like a hub, the spokes coming out, so many different things going on, and each one touches an important aspect of what Emory is about.

I saw it as a benchmark in my intellectual development. . . . I don't approach any topic without . . . wanting to know what other disciplines have said about it. I am a better teacher, a better professor . . . a better citizen of the community, because of the seminar.

Although some scholars and academic leaders pay lip service to the need to create a vibrant "intellectual community," others view the ingredients of such a community as key to sustaining high quality faculty work. Their idea of lively and genuine scholarly exchange is far from ivy-clad nostalgia. In their view, a strong intellectual community not only supports interaction across disciplines, but also helps connect the larger purposes of scholarly inquiry.

Because current demands to connect teaching and research across fields of inquiry are influencing all types of institutions, this need has extended from the more elite research institutions to the full range of higher education. However, trends suggest that successful connections may be hard to achieve. The industrialization that followed World War II created an unprecedented demand for new knowledge. In turn, economic and technological expansion fueled the development of professional expertise in the disciplines that continues unabated (Bender, 1998; Geiger, 1993). Some scholars suggest the need to rein in the dominance of disciplinary specialty. Concerned that overemphasizing disciplinary

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expertise may reduce the richness of local interaction and dilute the coherence of academic culture, they seek to develop mechanisms for intellectual exchange aimed at integrating knowledge across fields (Austin, 1990; Boyer, 1990, 1997; Clark, 1983; Damrosch, 1995; Dill, 1991; Kerr, 1982; Tierney & Rhoads, 1994). Even though intellectual interaction across disciplines seems to improve the ability of scholars to address societal problems, the caliber of solutions they pose, and the quality of academic life in general (Benson, Harkavy, & Puckett, 1996; Boyer, 1990, 1997; Hollingsworth, 1996; Rice, 1996), disciplinary specialty erodes the vitality of local connections.

Assuming that local connections across disciplines contribute to the quality of scholarly work, leaders at one research university initiated an eight-year experimental program of in-depth discourse among faculty from a wide variety of fields. Such programs appear to help scholars overcome barriers that can impede meaningful interaction (Klein, 1996). In a previous qualitative analysis, we examined some ways the program supported intellectual exchange and community (Frost & Jean, 1999). In this qualitative analysis based on the perceptions of the participants, we seek to gauge the potential breadth and depth of the program's effects on the ways faculty members think, work, and interact. To provide foundation for our findings, we explore some aspects of academic culture and disciplinary specialty that influence such programs, regardless of location or type.

Academic Culture, Disciplinary Specialty, and Faculty Programs

Since Clark described the cultures of the academy in 1983, scholars have explored the forces that influence the attitudes and practices of faculty (Austin, 1990; Cameron & Ettington, 1988; Dill, 1991; Peterson & Spencer, 1990; Tierney & Rhoads, 1994). These forces include patterns of attitudes, meanings, symbols, and behaviors that coalesce around disciplines, institutions, and the profession. The culture of the discipline, for example, consists of a "knowledge tradition" that includes categories of thought, a common vocabulary, and related codes of conduct. The culture of the institution surrounds individual universities, generating loyalty through symbols of unity while permitting various subcultures to flourish. The culture of the profession influences all disciplines and institutions, providing the foundation for a single "community of scholars." In the normal course of intellectual interaction, these forces intersect, clash, divide, or mutually reinforce faculty work (Metzger, 1987). Some clashes result from favoring disciplinary expertise at the expense of local interaction, potentially diminishing the sense of shared purpose

that should bind members of the academic profession (Austin, 1990; Barnett, 1994; Becher, 1987, 1994; Bender, 1993; Boyer, 1990, 1997; Clark, 1983; Damrosch, 1995; Dill, 1991; Kerr, 1982; Newman, 1996; Ochs, 1984; Tierney & Rhoads, 1994).

One can trace this sense of purpose to the nineteenth century, when John Henry Newman described university life as local, "familiar intercourse." Cardinal Newman (1875) believed that the notion of universities as centers for the pursuit of useful and profitable knowledge threatened the locally shared sense of purpose that created virtue and meaning. The pursuit of "knowledge for its own sake" through local faculty interaction was still necessary "to adjust together the claims and relations to their respective subjects of investigation" (p. 101). In the mid-twentieth century, Robert Maynard Hutchins (1968) seemed to extend Newman's ideal. Believing that the purpose of a university was to "see knowledge, life, the world, or truth whole" (p. 108), Hutchins (1995) valued the pursuit of truth over academic specialty. Modern research universities, however, find the drives to produce specialized knowledge and maintain a viable intellectual community particularly hard to reconcile (Damrosch, 1995; Geiger, 1993; Ruscio, 1987). Moreover, scholars now suggest that such reconciliation can pay dividends for scholarship. Exposure to cutting-edge knowledge in other disciplines stimulates innovative research both within and across disciplines, particularly within the natural sciences (Benowitz, 1995; Hollingsworth, 1996; Rice, 1996). To advance informal and formal types of collaboration, university leaders seek new mechanisms for intellectual exchange that bridge traditional boundaries of knowledge (Austin & Baldwin, 1991; Bellah, 1996; Bohen & Styles, 1998; Boyer, 1990; Geiger, 1993).

The Luce Seminar program at Emory represents one such effort to reconnect its faculty through "familiar intercourse" and explore untapped potential for expanding the horizons of their scholarly thought and work. Programs aimed at enhancing intellectual exchange and expanding the horizons of teaching and research across disciplines face challenges revolving around the dominance of the disciplines in the scholarly and intellectual lives of faculty. How faculty think, work and interact are primarily circumscribed by disciplinary boundaries.

One potential challenge for such programs concerns the distinct theories, methods, and styles of discourse used to produce new knowledge within the disciplines. Some differences seem to coalesce around realist and relativist modes of inquiry (Becher, 1987, 1995). Realists stress the independent nature of knowledge, evidence, and the demonstrability of valid findings; relativists emphasize the nature of argument, persuasion,

and ideology. Clusters of disciplines exemplify the range of difference within these modes. For example, the pure sciences treat knowledge as quantitative and cumulative, the humanities and soft social sciences as reiterative and pluralist, the hard social sciences as functional and utilitarian, and the applied or technical disciplines as purposive and pragmatic. Thus, the humanities tend to be concerned with particulars or complication and interpretation, the pure or natural sciences with universals and simplification, and the applied or technical sciences with know-how and mastery. The social sciences occupy the middle range between generalized, realist modes of empirical inquiry and particularized, relativist modes of inquiry. This difference forms an important distinction, which scholars may experience as distance from their colleagues in fields that are neighboring or distant from their own.

Another important disciplinary distinction concerns the different approaches of the professional schools and the arts and sciences to their scholarly missions (Becher, 1995; Bok, 1986; Clark, 1983, 1987; Halpern, 1987). The disciplines that provide professional training in theology, business or law, for example, combine academic and practical missions not found in the traditional arts and sciences. Yet within the academy, scholars value inquiry that is abstract, pure, or interesting for its own sake, sometimes assigning less status to work that has "immediate, practical utility" (Bok, 1986). Because many inside the academy consider the arts and sciences the heart of true scholarship, professional school faculty sometimes seek to establish their reputation as more than mere "trade school teachers" by signaling their respect for abstract scholarly values (Bok, 1986). Ironically, those outside the academy tend to value precisely the kind of inquiry professional education embraces and question the value of pure inquiry as it is practiced in the arts and sciences (Becher, 1995).

Communication outside one's home discipline has therefore become more difficult as fields of knowledge rely on increasingly complex contents, methodologies and jargons (Clark, 1983). The uncertainty of venturing into new territories of discourse can be daunting, revealing intolerance and ignorance and raising anxiety and defensiveness (Armstrong, 1980; Becher, 1994). Effective intellectual exchange among faculty requires overcoming such stereotypes and developing a mutual sense of respect and tolerance.

Differences in individual styles of learning and level of career advancement may also influence what faculty take away from programs designed to enhance intellectual exchange and scholarship (Armstrong, 1980; Baldwin, 1990; Bland & Schmitz, 1990; Centra, 1989). For example, some faculty may be oriented more toward learning that applies di-

rectly toward their research and teaching activities, while others seek stimulation through exploring general and abstract concepts. Variations in faculty seniority levels might also influence how a participant benefits from faculty programs. Senior faculty tend to become involved in long-term research projects aimed at establishing new theories and explore new avenues to expand their professional horizons. In contrast, because securing tenure and scholarly reputation concern junior faculty, they tend to gear their learning toward accomplishing these goals.

Case Study Background

A Research I university located in the southeastern United States, Emory University consists of an undergraduate college, a graduate school of arts and sciences, and professional programs in business, law, theology, medicine, nursing, and public health. At the time the Luce Seminars were planned, Emory began a period of ambitious growth fueled by a substantial monetary gift and the vision of its president, James T. Laney. To increase the quality and intensity of scholarship among its faculty, the university added new faculty and increased support for research. From 1978 to 1993, when the president left office, research support had increased by over 450%, while the number of faculty increased by 50%.

Concerned that Emory's growth might increase intellectual distances among faculty, the president sought ways to strengthen scholarly connections. During the mid-1980s, he and others designed a program to support discourse across disciplinary boundaries and to enrich the breadth of scholarship. They aimed at generating a "community of discourse" that would not only counter academic specialization and isolation, but would also expand intellectual horizons and encourage cross-disciplinary research and teaching initiatives. With partial funding from a Henry Luce Foundation grant, the program took shape as a series of semester-long seminars exploring broad topics of common concern. A total of 85 participants took part in the Luce Seminars, which were held each spring semester from 1989 to 1996. Between 9 and 12 faculty members from various disciplines participated in each seminar. They read broadly on a topic of common concern and convened twice weekly for discussion. Most participants were released from teaching responsibilities for the semester. In some cases, however, departments substituted release from committee work or other assignments. In a few cases, participants received no release time.

The university invited noted theologian James Gustafson to lead the seminars. Drawing on extensive experience in leading interdisciplinary

exchange, he developed seminar themes such as "nature" and "responsibility." Beginning many months before the start of each seminar, he gathered suggestions for readings from each participant, read each volume, and selected the most appropriate materials. He then sequenced them to build a framework and required each participant to present a reading in a discipline other than her or his own. A critical response from an expert in the field and general discussion ensued. A graduate student recorder took notes and circulated session summaries.

Following the eight-year program, we investigated the nature of the participants' experiences and influences on various aspects of intellectual community and scholarship**.** Despite consistently high ratings by most participants, the leader urged the university to probe the program's long-term influences. His urging, along with the fact that over 90% of the program's participants remained at Emory, provided the impetus for the study.

Research Questions and Design

Our previous work based on the study sample revealed that participants viewed the Luce Seminars as a successful framework that fostered fruitful discourse across disciplines over the eight-year duration of the program. In this analysis, we seek to gauge participant's perceptions of the breadth and depth of effects on the ways they think, work, and interact. We address the following questions:

- How did participants view the potential effects of the program on their attitudes and behaviors related to their scholarship and professional work? Based on the views of the participants, in what ways did the program affect their orientation toward their teaching, research, academic service, and career?
- How did participants view the potential effects of the program on their attitudes and behaviors related to intellectual and social interaction with their colleagues at the university? Based on the views of the participants, in what ways did the program affect their contact with faculty members from other disciplines and their orientation to their own disciplines and other disciplines?
- How did participants view the potential effects of the program on their attitudes and behaviors related to the university as the location for their scholarly and professional endeavors? Based on the views of the participants, in what ways did the program affect their view of and attachment to the university?

Because this seminar series occurred in one institution over a fixed

period of time, we used a qualitative case study design. This design is particularly appropriate when there are no previous or clear indicators of programmatic success or when a better understanding of the characteristics of a unique program is sought (Merriam, 1998; Patton, 1990; Yin, 1994). We employed purposive-based criteria to select a sample reflecting the various disciplines, ranks, and experience of the population of participants across the eight-year span (Merriam, 1998; Patton, 1990). Twenty-nine of the 85 faculty members who took part in the Luce Seminars were invited to participate in the study; 25 (86%) accepted the invitation. The percentage of males (68%) and the percentage of arts and sciences faculty members (64%) were somewhat smaller in the sample compared to the study population in order to fully explore the variation of the faculty members by gender and school. The 9 (36%) professional school faculty members in the sample represented the schools of theology, law, nursing, medicine, and public health.[1]

Following Clark (1983) and Becher (1987), our typology of disciplinary groups includes the humanities, social and natural sciences (located in the undergraduate college and graduate school of arts and sciences), and the professional schools (medicine, public health, nursing, law, theology, and business). In discussing the findings, we refer to respondents according to their disciplinary groups and assigned gender pronouns randomly to help ensure confidentiality. When appropriate, natural science faculty members in both the arts and sciences and the professional schools are grouped together. At the time of participation, 84% of participants held tenure; 52% held the rank of professor; 40%, associate professor; and 8%, assistant professor.

We conducted semistructured, open-ended interviews with each participant in the sample. A prestructured yet flexible data-coding scheme derived from the literature review and the research questions allowed for evolving interpretation throughout the course of the data analysis (Miles & Huberman, 1994; Patton, 1990). We employed the qualitative research software program HyperRESEARCH to code the data and analyze the results.

We relied upon methods of triangulation to supplement participant interviews by analyzing selected information from the archival records of the program, conducting interviews with eight university leaders involved in the program's development, and holding structured conversations with the program's director. Multiple sources of evidence have been found to enhance validity and reliability in the application of qualitative research conclusions for understanding similar programs in similar contexts (Miles & Huberman, 1994; Patton, 1990; Pitman & Maxwell, 1992). Although qualitative research has limited application beyond its immediate and local context, reliance on multiple sources of

evidence and data analysis sufficiently rich in detail enabled us to make tentative generalizations about participants' views of the influences of the program throughout the population (Crowson, 1988). To further ensure validity and reliability, the two principal researchers used member checks, peer review, and coding reliability checks (Merriam, 1998; Miles & Huberman, 1994; Patton, 1990).

Although our design resulted in rich data about perceptions of the effects of seminar participation on faculty scholarship and interaction, we suggest some caution about wholly attributing these influences to the program. Because resources were limited and the study was designed as an evaluative research tool after the program ended, it was not feasible to establish a comparison group in order to enhance the validity of the results (Campbell & Stanley, 1966). Due to the lack of a valid comparison group, we relied upon the self-reporting of a sophisticated group of program participants. We recognize that some of the design flaws typical of a one-shot case study may have confounded the reported influences with outside influences. Following Campbell and Stanley (1966), these include selection (uncontrolled bias within the sample) and maturation or history (changes undergone by the subjects or in the surrounding environment during the intervening time period). In addition, some participants may have overstated or understated the influences of program participation. In living with the constraints of applied evaluation research, we necessarily fall short of ideal experimental design principles.

Findings

In an earlier article, we noted the positive intellectual and affective stimulation experienced by a large majority of the participants in the sample (Frost & Jean, 1999). Although participants had a few criticisms of the program's format and design, they described enjoying the intellectual challenge of interacting with colleagues across disciplines around topics of common concern. The findings below describe the observations of the program's director and participants about the characteristics and activities of the program and express the participants' views of the program's influences on scholarly activities, intellectual interaction across disciplines, and the university as the location for their scholarly endeavors. Table 1 contains a summary of these influences.

General Observations about the Characteristics of the Program

According to many participants as well as the program director, James Gustafson, the format, form of leadership, choice of topics,

and sequence of the discussions contributed to the strength of the program.

Most participants in the sample rated the topics highly. They described how the use of semester-long topics such as "responsibility," "nature," and "describing, explaining, evaluating" permitted in-depth discussions at key intersecting points of disciplinary perspectives. While a small minority of participants described the topics as "too broad" and "artificial," most participants noted a connection between the breadth of the topic and the depth of the learning. Noted one participant: "Having to do it in a very general way with that topic, 'on being human,' . . . turned out to include epistemology, how do we think, how do we learn, [and] how do we observe reality . . . it gave me an opportunity to discuss [the topic] in a fairly deep way."

Participants also gave high marks to the quality and effectiveness of the materials. These materials consisted of books initially selected by the participants to represent the perspectives of their disciplines related to the course topic. Examples of books used in some of the seminars that spanned disciplinary perspectives included William James' *The Varieties of Religious Experiences,* Reinhold Niehbur's *The Nature and Destiny of Man,* Don DeLillo's *White Noise,* and Ernest Mayr's *Toward a New Philosophy of Biology.* As the director noted, the books selected had to be "technical enough so that you didn't have to be a specialist in the field to understand them," yet sophisticated enough to avoid "any pap." Although a few felt that the books overly favored the "classics," many commented about the effective interweaving of the carefully selected materials. A health scientist, for example, remarked about "the wonderful collection of books that . . . stimulated you to know more . . . and to be able to relate it to what was meaningful to your own discipline and your own philosophy . . . was very meaningful to me." (For more detailed examples of topics and materials, see appendix A).

Participants seemed to describe how the format, the investment of university resources, and the skillful leadership fostered a stimulating environment for meaningful conversation. For example, some noted that their release from teaching played a "critical" role for creating "space and incentive" and 'intellectual seriousness." Some noted that providing a "buffer" of time helped them digest the materials from the varied disciplines. As a social scientist commented, this time buffer permitted participants to "stay focused on this [and] on nothing else [to] improve your thinking . . . to another level of scholarship." Some expressed appreciation of the university's investment in the leadership and resources necessary to support the program: "It was intense because everyone seemed to bring their whole being" and people appreciated the opportunity to

interact with colleagues "purely for intellectual gratification." A social scientist felt that the seminars sent a message to faculty that "interdisciplinary conversation, discussion without an immediate payoff, is important for the sheer experience of it . . . precisely because it need not be instrumental." As one natural scientist from the professional schools noted, it "felt like ideas were important, like we always thought they should be, ideas for their own sake . . . it was my idealized view of what university life was truly all about, but I'd never experienced." The seminar enabled a humanities participant "to think without distraction, which is a rare thing for scholars these days." As a natural scientist observed: "It was set up so that people were impressed with the seriousness of purpose. Without that, it wouldn't have worked at all."

Although some participants wished for stronger guidance in the discussions, many described how the leader skillfully used timely, "open-ended" questions to stimulate discussions without "foreclosing them." Others referred to the style of "gentle guidance" or "back of the room teaching" that established a dignified atmosphere for fostering the "vulnerability" and "mutual respect" needed to "look deeply" into the materials without getting caught up in ideological posturing: "[The leader] kept [the discussions] on track without inserting himself too much." As the director noted: "The basic style was very few monologues on my part . . . I was the director of the seminar, rather than the teacher."

In general, participants commented that the structure of the discussions played an important role in generating substantive connections at appropriate junctures of disciplinary perspectives. Many seemed to enjoy the opportunity to relate the various disciplinary perspectives to the semester-long themes. Others stressed the importance of the "uncanny" pairing of disciplinary perspectives in class discussions and assignments. The program director described how he would read over 30 books proposed by the participants signed up for an upcoming seminar to determine "a sequence of them" where there would be a "block of books . . . related to each other in a significant way" or where "the sequence would be almost a synthesis and then antithesis of books." The director as well as many participants described the effectiveness of assigning the initial presentation of a paper about a reading to a respondent who was not from the field of the book, followed by a response from someone who was in the field of the book. Stated a humanities participant: "We would discuss works that were actually outside the disciplines, but with a certain . . . affinity. . . . Jim Gustafson did a wonderful job of pairing [the] work and author of the presentation." This "involved putting aside the normal premises . . . and trying to enter into a different kind of inquiry." Another humanities participant described how relying

upon non-experts opened up discussion: "You were [first] going to hear your colleagues' view . . . on a text that person perhaps knew no better than you did. . . . It forced people to break down these 'perspectival' barriers that come from their . . . 'professional deformation.' " Noted the director, the appropriate sequencing of the materials and presentations helped avoid having a "book talk show" that fails to "come to grips with the substance of the material under discussion." The description of a health scientist captures the results of the intentioned sequencing:

> It was interesting to do the critique, . . . have the historian do a critique of my critique, and then have everybody else engage in the discussion. What it allowed all of us to do . . . was to value the acquisition of knowledge from other sources, other disciplines, [and] to appreciate our own knowledge base within the context of knowledge from other disciplines.

Influences on Scholarly and Professional Activities

Almost all of the study participants reported important influences on their scholarly and professional activities in one or more of the areas of teaching, research, service, or career direction. In one striking example, one senior social sciences faculty member viewed the seminar as "a benchmark in my intellectual development" and as a result, became "a better teacher, a better professor, . . . a better citizen of the community."

Teaching. Eighty-four percent of participants indicated that participation altered their teaching, sometimes in significant ways. We identified five primary areas of teaching influence: motivation, style or technique, course design or content, involvement in interdisciplinary modes, and student empathy. Regarding motivation, some reported developing the confidence to try new things with their teaching. Other participants talked about the inspiration to risk developing new structures modeled after the "Socratic" method of discussing and defining scholarly concepts. After her seminar, one health scientist began meeting with faculty in other disciplines to propose and design new courses. Without the seminar, she said "I wouldn't have had the confidence or courage [for] . . . taking the initiative, having the vision." One professional school participant credited her seminar experience with "encouraging me to go ahead and . . . risk" bringing comparative literature into courses.

Fifty-six percent of participants altered the design or content of subsequent courses, usually reflecting subjects or readings from outside disciplines. For example, one social scientist used more literature in her courses, one humanities participant borrowed from cultural anthropology for teaching literature classes, and several others reported using examples from seminar discussions in their classes. One humanities participant cited a "significant effect on my teaching," since "I talk a lot in my

TABLE 1
Reported Effects of the Luce Seminars on Faculty Scholarship and Interaction

Activity or Orientation	Effects
Scholarly and Professional Activities	
Teaching	Motivation to try new approaches; Altered course design or content; Altered teaching style or technique; Involvement in team-teaching or development of interdisciplinary courses; New empathy for student perspectives from other disciplines
Research	Expansion of content/scope; Supplementing disciplinary methods with those from other disciplines; Increased motivation to try new research directions
Quality of scholarly thought	Development of new ways of questioning or defining scholarly problems; Discovering or rekindling connections between own research and fundamental scholarly issues across disciplines
Career orientation/academic service	Sense of renewed dedication; Expanded imagination about paths for service to the community or university
Intellectual Interaction Across Disciplines	
Orientation toward own discipline	Increased understanding of own discipline relative to other disciplines; Increased appreciation for or commitment to own disciplinary endeavors
Orientation toward other disciplines	Increased understanding of other disciplinary perspectives; Increased appreciation for other disciplinary perspectives;
Contact with faculty from other disciplines	Increased informal intellectual and social interaction with faculty across disciplines; Increased participation in formal programs of interdisciplinary programs
Orientation to the University as the Location for Scholarly Endeavors	Enhanced feelings of attachment to the university; Enhanced sense of connection with the university as a community

classes now about the theory of evolution, about various things that I learned in the seminar." One professional school participant became more interested in "broader human questions" which have "shown up in my courses as well."

About half of the participants altered their teaching style or technique. Some emulated the leader's style, using "deep passage analysis" and asking "open" instead of "closed" questions. In a new seminar, one social scientist focused on exploring the meanings and ramifications of one central topic: "It is a Luce Seminar . . . I would not be doing it, the students would not have had the experience, were it not for that."

Forty percent of the participants credited their seminar experiences for their subsequent team-teaching or interdisciplinary course development. One humanities participant subsequently co-taught with a seminar member who was a social scientist, noting that the feeling that these were "possible to do" was "influenced by the seminar." A junior human-

ities participant credited the seminar experience for feeling "confident enough" to develop "a kind of off-shoot from the Luce Seminar" that "became a prototype" for introductory graduate seminars in her department. One health scientist mentioned how the seminar led her to propose "that we apply for teaching funds to do an interdisciplinary health care ethics course." Through developing the "feeling that it was possible to do" in the seminar, one senior natural scientist taught a course blending science and literature with a faculty member in the humanities.

Several participants reported developing a new empathy for how the university's array of disciplines might appear bewildering to undergraduate students. For them, enhanced student empathy proved useful for student advisement or for understanding how students' disciplinary orientations might shape their questions and approaches in relation to class discussions. "I found myself . . . thinking about what . . . the university must look like to an undergraduate [who tries] to put together a liberal arts education," noted one humanities participant.

Research. Slightly over half of the participants we interviewed cited some influences on their research. Noting that the seminar pushed her to change the way she conducted research, a senior faculty member in a professional school remarked: "Six years ago…I began to wonder, 'what . . . difference does it make what [a] small group of people in another century, another country, were saying about issues?' . . . The seminar infused me with a new sense of how I could answer the question 'so what' in a way that was satisfying."

We identified three primary areas of research influences: method, content or activities, and motivation. Twenty percent of the participants described influences on their research methods, such as incorporating contextual narratives into scientific research and supplementing literary studies with history for one humanities participant, and cultural anthropology and history for another. One health scientist learned to weave narrative techniques into articles published in scientific journals: "It's that kind of weaving across the discipline that I . . . honed in the seminar."

About half of the participants subsequently expanded the content or activities of their research. Some added new questions or topics evolving out of their seminar's materials to their research agenda or expanded the scope of their research to address wider issues. Professional school scientists seemed particularly impressed with what they learned from the humanities. Most of the health scientists, for example, supplemented their primary research areas with connections to ethical or philosophical issues. One health scientist used her experience to "retool myself in the area of research ethics" to apply for grants from the National Institutes

of Health. Another health scientist received the "grounding" to "probe more deeply" into the relationship between learning and scientific knowledge. Similarly, several humanities participants expanded the scope of their research agendas with questions and information based on the social sciences. One incorporated elements of cognitive psychology into literary analysis; another discovered the assumptions of social science theory as a topic for research that produced publications; and two others enhanced their literary research with cultural and historical analyses. At the time of this study, six faculty members noted publications that had evolved out of their seminar experience.

Finally, about one third of the participants reported increased motivation for their scholarly work. Many of these found added affirmation for the value of their own interdisciplinary approaches or stimulation to take off in new directions. For example, one natural scientist gained the confidence to "try a bit of a different direction with my science" by connecting it with outside disciplines. For one humanities participant the seminar provided the "impetus" and "encouragement" to use some aspects of history and anthropology in his literary research. One health scientist would not have been able to emphasize philosophic issues in his writing without being "propelled" by the "intellectual vigor that came out of the seminars."

Quality of scholarly thought. Fifty-six percent of participants credited the seminar for enhancing the quality of their scholarly thought and for helping them develop new ways of questioning or defining scholarly problems. One social scientist, for example, viewed his participation as a "mind-stretching experience" that pushed him to "always think about contrasting terms" in order to clarify an intellectual problem. A professional school participant improved his ability to take an important concept such as "responsibility" and trace its social and cultural origins. For him, the method of breaking down "what I thought was intuitively obvious" most "affected how I think." As a senior faculty member in the health sciences noted: "We were always talking about scholarship. The question is where does it begin? It begins, of course, with a very good question, and the way I learned from participation in the seminar was not so much the answers that were given, but the questions . . . helped you to have greater clarity."

Some participants discovered or rekindled ways of making connections between their own research and broad or fundamental issues. For example, one professional school participant developed "a more organized way of going about" ways of thinking and researching the "more fundamental questions about who we are as human beings," rather than always remaining focused on "the specifics and details." Another profes-

sional school participant was "stimulated to ask broader questions" such as "what does it mean to be a human being in the end of the twentieth century?" Similarly, one humanities participant appreciated the opportunity to revive the "liberal education" he had lost, which had resulted from reading "more and more intensely in an increasingly narrow area" circumscribed by his discipline.

Career orientation and academic service. Forty percent of the participants seemed to experience a sense of renewal toward their careers or academic service. In the words of one health scientist, the seminars "challenged us to re-engage ourselves and recommit ourselves to the academy. . . . It was the reason why we became professors and came to the university and I think it re-ignited that flame." Similarly, another senior health sciences participant noted: "I think [the seminar] gave me at mid-career . . . a renewed enthusiasm . . . and it stimulated . . . my moral imagination greatly. . . . I had the motivation and the courage to go out and seek opportunities to create that kind of a dialogue."

The influences on career orientation and academic service often varied according to level of seniority or career stage and disciplinary group. Senior faculty participants tended to credit the seminar experience for stimulating new career directions, while junior faculty participants described gaining increased confidence or an enhanced sense of integration into academic life at the university. Some senior faculty participants, for example, talked about experiencing a "renewal" toward their scholarship, feeling "reintegrated" into the intellectual life of the university, or becoming "inspired" to work harder. One junior faculty participant indicated that the leader of the seminar provided a positive role model of scholarship: "It was just a very good example for me as a relatively young person in this profession of something to which I should be aspiring."

For some participants, the seminar experience expanded their imagination about service to the community or the university. Natural scientists in the professional schools, in particular, seemed to feel more strongly about bringing together disciplinary perspectives for academic service. For example, one senior health scientist was surprised "to gain such a powerful renewed sense of the responsibility" for applying academic knowledge to community service. In addition, some health scientists increased their desire or confidence to draw upon resources from other disciplines to enhance the ways they study and serve their clients in the community. One health scientist stressed that the seminar "prepared him" more than any previous experience for participating in a multi-disciplinary program at the university that supports educational opportunities in the community. Another health scientist stressed the

influence of her seminar on developing "expansive thinking" that enabled her to better grasp the role of her department in relation to the wider context of the university, the "why we are versus what we do."

Intellectual Interaction across Disciplines

A large majority credited the seminar with altering their attitudes and feelings about their own disciplines and other disciplines. These altered views translated into more frequent and valuable contact with colleagues both in the seminars and across the university. One senior faculty member in the social sciences captured this change: "What I came away with was an appreciation for what [colleagues from other disciplines] do [and] how they think. . . . The content is different, but there are the same kinds of struggles going on, the same kinds of questions. . . . There's a friendly face in each one of those places for me now."

Characterizing their experience as somewhat negative, three participants appeared to gain little additional understanding or appreciation of their own disciplines or of disciplines outside of their own. They had had considerable previous exposure to interdisciplinary contact and seemed to feel that exemplary representation of hands-on disciplinary activities had been lacking in their particular seminars. In contrast to many others, these participants felt that the semester-long topics were "too broad" or "artificial" to foster meaningful interdisciplinary conversation. Of the three, two were in the humanities and one in the social sciences. As one humanities participant wondered: "[The seminar] brought a lot of people together that wouldn't have gotten together otherwise, . . . but I'm not sure to what end . . . [it] showed me how . . . artificial interdisciplinarity . . . can't take the place [of interdisciplinarity] . . . organically developed out of [scholarly] work and out of . . . systems of value." Similarly, one social scientist complained: "[The leader] made it very clear that we would not talk about contemporary issues, our role as faculty, [or] our responsibilities to students. We would only talk about intellectual, academic issues and that . . . felt profoundly uncomfortable to me. . . . So nothing . . . carried over into my work."

Orientations toward participants' own disciplines. Fourteen (56%) increased their understanding of the nature of their disciplines relative to other disciplines. For example, one humanities participant gained a new understanding of the foundations of her discipline: "It's so basic [but] it's really hard . . . to have a sense of your field as a field rather than simply a state of nature, and it's like travel that way, just getting some distance and anthropological perspective on how your own field is organized." One social scientist saw how the scientific method provides a foundation for her discipline compared to the humanities, and one hu-

manities participant saw how his discipline encompasses the richness of the "whole man" relative to the natural sciences and professional schools. Notably, some health scientists saw more clearly both the rigor and practical value of their disciplines while commenting on their need to expand their knowledge base to incorporate insights from other disciplinary groups.

Over three-quarters of the participants developed a greater appreciation or commitment toward their disciplinary endeavors. For example, several health scientists gained a deeper appreciation of the applied nature of their disciplines. One noted, "We have to have answers and we have to make decisions in real time that impact on the lives of people." Two other health scientists seemed "reaffirmed" about the importance of their discipline due to the respect accorded them in the seminar, despite fearing a lack of acceptance because of their lack of knowledge of the humanities. Some humanities participants used phrases like "richness," "interpretive," and "agility" in relation to their disciplinary orientations relative to the "empirical" social and natural sciences: "I was affirmed in my original assumptions about why I do this. I'm much more at home [with the] . . . range of interpretive possibilities than relying on . . . empiricism." Citing the wide range of content in social science studies, several of the social scientists gained appreciation of how their disciplines provide a "distinctive contribution" through their unique window on interdisciplinary knowledge.

Orientations toward other disciplines. Even if their understanding remained incomplete, many participants gained deeper respect or appreciation for the subtleties and complexity of other disciplines. Nineteen faculty (76%) increased their insights into the approaches of various disciplines, while 21 (84%) gained a greater respect or appreciation for other disciplines, even as some remained critical or bewildered.

In particular, natural scientists and professional school participants commented extensively about their increased understanding and appreciation of the methods and approaches of other disciplines. As one senior faculty member in the professional schools noted: "I finally began . . . to understand what it was to be a [professor in my own discipline] as opposed to an English professor or a German professor . . . and that . . . it was legitimate . . . to have a paper that was evocative as opposed to something that was analytically grounded." A senior health scientist grasped the importance of the "abstract disciplines" through the seminar's focus on the "larger questions that we often get more in . . . little conversations at night among a bunch of undergraduates." He learned that these "larger questions" exist at a "different level than we're accustomed to in . . . our search for knowledge in science." As one natural

scientist explained: "[The seminar] has made me aware of . . . how many different versions there are of truth. It's very easy, for the physical sciences especially, to think we have a corner on truth. . . . We're all part of the university."

The distances between the approaches of disciplines and disciplinary groups struck some participants. For example, one humanities faculty member commented that the professional schools "seemed to be on a different planet," orienting their teaching toward professional goals for the students: "They think I'm frivolously wasting everybody's time, and I think they're just doing their bit churning out the next robot." Remarked one social scientist, "When you recruit from the medical school or from public health, to a lesser extent the law school, . . . you are dealing with people who are operating under a different institutional context" who cannot break free of the pressures of bringing in grant funding.

Others saw more clearly some disciplinary differences between approaches to knowledge and evidence. For example, a natural scientist in the professional schools was surprised at the extent to which an "epistemological chasm" emerged between the humanists and the scientists in the seminar between the "scientific view" and the "so-called social construction of knowledge." Another natural scientist learned that "humanists put the word above all else" and "passionately and vividly . . . defend their opinion about what was on the page," whereas scientists "don't take words with that same depth." From another perspective, one humanities participant saw more clearly the difference between the "critical" approaches across the humanities and the "empiricism" of the natural and social sciences in relation to evidence, truth, and fiction.

While some participants talked about how the seminar revealed the ultimate difficulty of interdisciplinary discourse, others believed that the discourse illuminated common concerns. For example, a natural scientist's desire for further interaction was kindled through learning that "people from other disciplines are also of my kind," as discourse in the seminar seemed to break down "vertical walls" between disciplines. A humanities participant acknowledged this tension, describing "the value of trying to communicate across disciplinary lines . . . that cross school lines at some point . . . with a spirit of possibility." However, she believed that, ultimately, the languages of the disciplines were "incommensurate" and "were just at the end of the day at odds." A social scientist saw a "good model for constructive exchange of ideas among faculty" as it "reinforced my sense that the faculty . . . need more of these kind of events."

Contact with faculty from other disciplines. For ninety-two percent of

the participants, the intellectual interaction and social friendships that developed continued with lunches, conversations, reading groups, and more formal research projects or co-teaching. One main benefit for one natural scientist was "making connections, to some extent friendly, and to some extent professional, that have paid off in my teaching and my research." Similarly, one health scientist described the benefits from interacting with colleagues from the natural and social sciences: "The significant thing for me was that I am in contact with those colleagues. . . . We've done other projects together, and that would not have happened were it nor for the seminar." One junior faculty participant in the humanities noted, "We just don't get that many opportunities to talk across disciplines, and . . . being able to identify people . . . working in the same areas . . . is very important."

Some participants described increased levels of confidence for reaching out to faculty members outside their own disciplines. One senior professional school participant was more willing "to relate to them . . . and use their information, . . . making Emory a better place for me professionally." The seminar gave one social scientist "a dozen people, bang!, and out of those relationships have come other relationships and they have ramified in different ways." One junior humanities participant gained a "portable understanding" of ways to initiate a cross-disciplinary curricular initiative within the arts and sciences. One senior health scientist noted how the experience deepened "my affection, my appreciation for my colleagues" and credited the seminar for feeling "more comfortable in dialoguing" with faculty from other disciplines. In addition, about one third of participants cited the influences on their subsequent participation in other interdisciplinary "add-on" seminars, study groups, lectures, and multi-disciplinary programs supported by the university.

The University as the Location for Scholarly Endeavors

Eighty percent of the participants reported enhanced feelings of attachment to or integration with the university as the location for their scholarly and professional endeavors. For example, one senior humanities participant stated that the seminar "strengthened my loyalty to Emory [because] . . . a school that believes sufficiently in the intellectual exchange [of its faculty]. . . gets high marks in my book." Another senior humanities participant felt that the university's investment sent a "signal . . . that the university was interested in my own intellectual development…above and beyond my work in my discipline." Similarly, for a senior professional school participant, the seminar contrasted to the university as "big business." "[It] was a signal, hey, somebody in the

administration building is interested in the quality of thinking and leadership of its faculty, interested in matters beyond attracting students, providing courses, and making sure this faculty is publishing [and] visible."

Some participants described an enhanced sense of belonging to the university. As one senior health sciences participant revealed: "I was in Timbuktu in terms of relationships with the university. This was my first . . . real exposure to other faculty and to the life of the university. . . . As I got more acquainted with the larger community, it has filled in the void." Another health scientist stated, "I know people in the university . . . in a way that I didn't know, even though I had worked here for years." One senior social scientist remarked, "I like to think that [now] there's some sort of small college . . . hidden within the walls of the university."

In particular, junior faculty, professional school and other participants who felt some physical or intellectual isolation from the rest of the university seemed to experience an enhanced sense of connection with the university. For example, one junior faculty participant reported "feeling as though there is a . . . larger intellectual community that you really are a part of, rather than you just being a member of your own department." A senior humanities participant who had described his physical location as "isolated" connected with the "wholeness" of the academic enterprise. For him, the "university exists only to the extent to which we speak to each other," while "most of our days consist of going to the office, going to class . . . [and then] going home." The seminar helped one senior health scientist overcome "a kind of insulation to the intellectual life of the university" that exists, she said, in the professional schools. For another senior professional school participant, the experience was the only "formal means" for providing "conversation and exchanges on a professional level about knowledge" he had encountered at the university. The seminar helped him realize an ideal of scholarly life: "Being at the university club, drinking a shot of brandy, and discussing philosophy or history or something like that with other faculty members."

For twenty percent of the participants, the experience had little or no influence on their attachment to the university. Two participants who generally disliked their seminar experiences noted that they sometimes go out of their way to avoid certain members of their seminar class. Although some senior participants in the professional disciplines and in the natural sciences described enhanced ties to the university community, some senior faculty participants who had described a long history of faculty interaction across the university noted minimal impact from seminar participation on their ties to the university. For one such senior

humanities participant, the seminar experience did not lead to "working relations with other faculty members." It also did not influence his ties to the university, even though he had "hoped that it would."

Discussion

The participants in our sample described some broad and deep effects from their seminar experiences on their scholarship and interaction with faculty across disciplines. The seminar series stimulated many participants' imaginations about ways to enhance their teaching, research, and service by spanning disciplinary boundaries. Moreover, positive feelings often accompanied these shifts in intellectual perspectives, as participants reported becoming more comfortable in interacting or engaging in scholarly activities with colleagues from other disciplines. By increasing understanding and appreciation for their colleagues across disciplines, the seminars provided a window into the multifaceted dimensions of the university, enabling many participants to peer beyond the usual confines of their narrow perspectives "into the university at large." The seminar experience helped mitigate a sense of intellectual or physical isolation, especially for participants from the natural sciences and professional schools. That some influences of the program varied by seniority (e.g., junior faculty felt more integrated, while senior faculty experienced enhanced appreciation and new possibilities for career directions) is supported by previous research about the relationship between faculty life cycle and programs designed to enhance scholarship and job satisfaction (Baldwin, 1990; Centra, 1989).

What factors account for the powerful effects of the Luce Seminars on scholarship and interaction reported by the participants? Three distinct characteristics of the program seem linked to some intellectual, affective, or symbolic dimensions within faculty culture at the university. First, the program seemed to expand the *intellectual horizons* of its participants. The seminars provided a model for interdisciplinary discourse that encouraged exploration of the breadth and depth of different approaches to knowledge and truth. This process involved defining concepts related to profound topics of common concern and immersion into the assumptions and vocabularies of disciplinary perspectives. To many of the participants, the "more organized way" that various disciplinary perspectives linked together at appropriate junctures to enhance exploring the "more fundamental questions" seemed to particularly distinguish the Luce Seminars from other programs of exchange across disciplines. The provision of release time from teaching and the semester-long duration of the courses created an intellectual "buffer" that made possible the

sustained intellectual effort and preparation needed to reap the positive benefits of this type of intense and integrated approach to knowledge exploration. As a result, many participants reported developing a new "quality of mind" that permitted them to stretch deeper and wider in conceptualizing intellectual problems and exploring solutions through their teaching, research, and service. However, a few participants who preferred more practical or "organic" seminar discourse tied to specific research projects did not seem to experience any qualitative shift in their intellectual development. This finding seems consistent with Armstong's (1980) observation about the importance of attending to the variation of personal learning styles in designing interdisciplinary faculty learning programs.

Second, the program appeared to build a reservoir of *good will* that inspired participants to engage in unfamiliar and difficult discourse. In the view of many participants, the program established an atmosphere for discussion that lowered ego investment and heightened comfort for exploring a bewildering array of disciplinary vocabularies, methods, and ideas. By receiving "gentle guidance" with well-timed, "open-ended" questions designed to lower "ideological posturing" and steer discussion along appropriate paths of interdisciplinary confluence, participants seemed to embrace a "model" for learning across disciplines that they could apply to their own scholarship. Our data provide some evidence to support Becher's (1994) contention that shared understanding across disciplines requires reducing strong negative stereotypes and feelings of intolerance. Many participants also reported experiencing great enjoyment and satisfaction from exploring ideas related to the "broader view" and articulating the role of their own disciplines in this quest. As a result, these participants reported experiencing increased appreciation for and interaction with colleagues from other disciplines as they recognized how working with people, ideas, or methods from other disciplinary perspectives might enhance their own scholarship. These affective factors contributed to developing sufficient comfort, motivation or courage to subsequently "risk" participation in interdisciplinary teaching, research, and programmatic activities that pushed aside the usual disciplinary boundaries.

Third, the program seemed to tap into some *symbolic dimensions* of both institutional and professional culture. By providing the structure and "intellectual space" for rich, local interaction across disciplines, the university's investment symbolized support for the intellectual growth of its faculty unfettered by "instrumental" expectation from both their departments and the university. For many participants, descriptive phrases such as "ideas for their own sake," "purely for intellectual grati-

fication," "discussion without an immediate payoff," and an "older scholarly ideal of what it means to be a university" revealed the seminar as a symbolic touchstone for participation in an overarching "community of scholars." Thus, as Bland and Schmitz (1990) noted, faculty programs that tie into symbolic academic values can more effectively enhance scholarly vitality.

Taken together, these symbolic dimensions of institutional and professional culture helped extend a desire for the type of "familiar intercourse" described by Newman (1875) in the nineteenth century and later extolled by Hutchins (1968). Not only did many participants describe an opportunity to explore what Hutchins (1968) called "truth whole," they also described experiencing a renewed understanding and commitment toward the work of their own disciplines. This suggests that a faculty interdisciplinary program imbued with intellectual purpose, affective support, and symbolic power can potentially form some level of cultural coherence that bridges the disparate spheres surrounding the specialization and isolation of knowledge fields (Damrosch, 1995; Dill, 1991; Kerr, 1982). Such cultural coherence, in turn, can help lay a foundation for the type of intellectual exchange across disciplines many claim as necessary to forge stronger ties between teaching and research and to solve large-scale societal problems (Bellah, 1996; Boyer, 1990, 1997; Damrosch, 1995).

Despite the many positive effects reported by the participants on their scholarship, we caution against inflated expectations from seamless faculty interaction across disciplines. Although fruitful interaction seemed to have occurred in this case, powerful limits to such interaction persist. While many participants linked positive thoughts and feelings about colleagues from other disciplines to the seminar, some believed that ultimately the disciplines are "incommensurate." As some scholars have noted, the culture surrounding disciplinary specialization dominates the other spheres of faculty culture (Austin, 1990; Clark, 1983; Dill, 1991). Despite the value of the program for enhancing interdisciplinary understanding and good will, the participants we interviewed indicated that certain disciplinary perspectives that intensely defend what passes for valid and useful knowledge hold considerable sway in circumscribing faculty interaction (Becher, 1987, 1994, 1995). In addition, we have observed how preferences for concrete, current, or hands-on research among some faculty may render programs of general, theme-based interdisciplinary discourse less potent for some intellectual styles and orientations.

Despite the high marks for lowering the clashing of egos and ideologies, we found some potential evidence supporting Armstrong's (1980)

observation that interdisciplinary dialogue often produces high levels of anxiety and defensiveness. Although the seminars seemed to help faculty members soften negative stereotypes, some persistent boundaries hinder the potential for valuable intellectual exchange. Two examples include the cultural fault lines between the empirical sciences and the humanities and between the professional and non-professional groups of disciplines.

The first fault line divides what Becher (1987, 1995) called the realist approach to knowledge from the relativist approach. Participants from the natural sciences and social sciences reported putting greater stock in the validity of empirical observation and the ability to draw valid conclusions of general applicability from those observations. Those from the humanities and some from the social sciences reported viewing perceptions of knowledge as subject to the vagaries of structural, historical, and cultural contexts. While we did not explore the subtleties among disciplinary perspectives, we did observe that this epistemological boundary held for many participants. If not properly diffused, such boundaries can generate considerable "bewilderment," if not suspicion, in interdisciplinary discourse and reduce its potential benefits.

The second fault line concerns the differing styles and missions of the professional and non-professional disciplines (Clark, 1983, 1987; Halpern, 1987). Some arts and sciences participants seemed to disdain the practical and vocational mission of professional school faculty members, perceived by some as churning out "the next robot." Even after their experience, some believed that interdisciplinary discourse should be limited to arts and sciences faculty who presumably search for common principles of knowledge unburdened by the need to gather external funding or produce graduates to fill certain vocational needs. Ironically, the desire to participate in the large academic questions as part of a community of scholars emerged as a strong theme among professional school participants, who appeared to delight in opportunities to both engage in theoretical and abstract intellectual discourse and to signal their capability to successfully participate in such discourse. Our data were consistent with Bok's (1986) observation that professional school faculty can feel isolated from the "true scholarship" of the arts and sciences and that, within academic culture, knowledge that is theoretical, abstract, or valuable for its own sake remains the dominant model. In addition, the particularly enthusiastic response from professional school participants toward applying what they learned in the Luce Seminars to their career and service activities was most likely due to their focus on real-time, real-world research problems and the vocational nature of their teaching mission (Halpern, 1987).

Becher's (1995) distinction between the internal and external status hierarchy among disciplines may help account for the tensions between arts and sciences and professional school faculty. While the "non-instrumental" and theoretical knowledge fields among the arts and sciences may rank higher in the internal intellectual status hierarchy of academia, the professional school disciplines seem to outrank them in the external hierarchy of perceptions outside of academia. Among the participants we interviewed, we observed a disdain indicated by some arts and sciences faculty members for the influences of external constituencies on the professional school mission. As some have noted, professional schools increasingly gain external reward and recognition, while some in the arts and sciences perceive themselves increasingly under threat for external justification (Bender, 1998; Geiger, 1986, 1993). We also observed some evidence of envy within professional school disciplines for greater internal intellectual acceptance within the academy. Perhaps some professional school faculty members sense an exclusionary attitude toward them from faculty within the arts and sciences.

Lessons for Leaders and Planners

Although cultures and circumstances across institutions may vary considerably, our findings suggest that it is possible to establish substantive discourse across disciplines. The seminar series we studied seemed to succeed in the view of many of the participants because planners attended to four important areas: structure, participation, ethos, and support. Here we address each area briefly and suggest some practical lessons for those seeking to establish the type interaction we have described.

Concerning structure, design support for sustained discourse of sufficient level of depth and breadth of learning. Provide time for substantive immersion into different disciplinary approaches and vocabularies, and arrange topics and materials into a framework that encourages related disciplinary perspectives to intersect.

Concerning the participants, secure a respected scholarly leader familiar with a wide range of scholarship across disciplines and choose participants to get an inclusive mix of disciplinary views. Ideal leadership permits a vibrant mix of faculty representing various disciplinary approaches to knowledge and evidence (such as realist versus relativist, for example) to engage in fruitful and enjoyable debate.

Concerning ethos, create an atmosphere that encourages participants to tackle difficult and unfamiliar materials outside their areas of expertise. The right atmosphere avoids an emphasis on ideological posturing

and reduces apprehension so that participants feel free to grapple with the limitations of their own disciplinary perspectives. Whenever possible, designers should also attend to the preferred learning styles of participants. For example, examining scholarly issues that emerge out of concrete or applied scientific and societal problems may inspire some faculty, while other faculty prefer to engage in theoretical or abstract discussions and analyses.

Concerning support, provide resources that signal intellectual seriousness and interest in the academic development of the participants. In addition to budgetary support, create an intellectual sanctuary for exploring ideas without additional expectation from the university while providing sufficient release time from other professional duties. Consider important ways to include participants in the selection of course readings and activities, particularly early on in the process.

Establishing the Luce Seminars involved a substantial investment of time and resources on the part of this university. This study has shown that, when constructed with attention to the right ingredients, a program of faculty interaction across disciplines can pay subsequent dividends far beyond providing a positive and enjoyable experience for participants. These dividends include enhancing participants' scholarly work (teaching, research, and service), broadening their collegial interaction across disciplines, and strengthening their orientation to their university as the location for their scholarly endeavors. Believing that the real gains in both the quality and quantity of scholarly work have justified the investment of time and other resources, leaders and planners at Emory now use the program as a model for other seminars.

Conclusion

To meet competing demands for specialized knowledge and for boundary-spanning solutions to real world problems, universities seek ways to connect disparate fields of knowledge while deepening scholarly expertise. We have shown how an experimental framework for serious discourse across disciplines represents one potential solution. In the view of many participants, the Luce Seminars helped build a more coherent intellectual community while enhancing the quality of their subsequent scholarship.

The profound effects of the seminar series, as reported by many participants, seemed to result from a confluence of distinct intellectual, affective, and symbolic characteristics. Participants seemed to view the seminars both as an intellectual model of interdisciplinary discourse and as a sign of the university's commitment to provide a sanctuary for the

exploration of knowledge apart from the expected or routine functions of the departments. Such an opportunity helped respect, understanding, and appreciation across disciplines to flourish.

For many participants, the program also seemed to tap into powerful affective and symbolic aspects of faculty culture that, in turn, motivated faculty to engage in new forms of scholarship. Our study revealed the importance of cultivating the affective and symbolic as well as the intellectual dimensions of faculty culture in supporting scholarship. Creating genuine intellectual community seems to involve more than providing opportunities for faculty interaction. It involves a scholar's feelings and perceptions related to the various disciplinary perspectives of colleagues and the ways that these perspectives appear to fit into the purpose of scholarly inquiry, as well as the perceived relationship between faculty members and their college or university.

Several questions related to the potential influences of similar programs at Emory and other research universities emerge from this study. First, the participants we interviewed observed that the program's profound effect on their attitudes and behaviors related to intellectual exchange and scholarly vitality continued subsequent to their participation. Over the long run, how lasting might these influences be? What institutional and professional factors might support or erode the program's influence over time? What remedies might universities employ to extend such influence?

Second, despite the general success of the program in bridging the distances between disciplines, many participants observed some powerful and persistent cultural fault lines. These fault lines revolve around two tensions regarding modes of scholarly inquiry. One tension concerns the realist or empirical approach characteristic of the natural and some social sciences and the relativist or social-construction approach found in some humanities and social sciences. The other tension involves the "practical" or applied nature of professional school scholarship and the theoretical or "pure" nature of scholarship often found in the arts and sciences. To what extent must these cultural fault lines remain as barriers to intellectual interaction and scholarship across disciplines? What factors contribute to the internal and external status hierarchies among disciplines and disciplinary groups, and what factors might mitigate them?

Third, although the program seemed to connect distinct elements of faculty cultures for many participants, new disciplines and subdisciplines continue to multiply at this university. Assuming that other universities share this condition, to what extent can institutions support a coherent intellectual community and at the same time advance

disciplinary expertise? What are the relative advantages and disadvantages of each?

Our case study analysis has revealed some ways to better understand the potential effects of programs aimed at enhancing scholarly interaction across disciplines, particularly for research universities. However, our results pertain to one subset of faculty at one university. The possibility that some faculty members may have entered the program with a predisposition for interdisciplinary intellectual exchange suggests the need for a wider range of data. Future research should investigate where and how faculty members seek to locate intellectual community across departments of a school, schools of a university, and universities in the United States and other countries. Because such research addresses the ways structural and cultural factors shape different types of intellectual interaction across disciplines, it could improve scholarly inquiry.

Notes

Due to the incomplete response rate, the business school was not represented in the sample.

APPENDIX A

Examples of Luce Seminar Topics and Materials

Topic: *Describing, Explaining, Valuing*

Books: *Freedom, V. I.* (Orlando Patterson); *A Sport of Nature* (Nadine Gordimer); *The World within the World* (John Barrow), *Chaos Bound* (N. Katherine Hayles); *Patterns of Intention* (Michael Baxandall); *Music, the Arts, and Ideas* (Leonard B. Meyer); *Poetics* (Aristotle); *The Case of Wagner* (Friedrich Nietzsche); *Consciousness Explained* (Dennis C. Dennett); *The Concept of Law* (H. L. A. Hart); *The Science Question in Feminism* (Sandra Harding); *Varieties of Religious Experience* (William James); *Eleven Plays* (W. B. Yeats).

Topic: *Responsibility*

Books: *And the Band Played On* (Randy Shilts); *Ethics of an Artificial Person* (Elizabeth Wolgast); *Beloved* (Toni Morrison); *The Responsible Self* (H. Richard Niebuhr); *Form and Substance in Anglo-American Law* (Atiyah and Summers); *Feminism without Illusion* (E. Fox-Genovese); *Parsival* (Von Eschenbach); *The Imperative of Responsibility* (Hans Jonas); *Capitalism and Freedom* (Milton Friedman); *Out of Site: Social Criticism of Architecture* (Diane Ghirardo, ed.); *Governing the Commons* (Eleanor Ostrom); *Inferno* (Dante); *Beyond Culture Wars* (Gerald Graff).

Topic: *Human Being/Being Human*

Books: *On Human Nature* (E. O. Wilson); *The Nature and Destiny of Man* (Reinhold Niebuhr); *The Tangled Wing* (Melvin Konner); *Ethics Without Philosophy* (James Edwards); *Matter and Consciousness* (Paul Churchland); *White Noise* (Don DeLillo); *Mind and Nature* (Gregory Bateson); *Fairness and Justice* (Hear and Fessler); *The Principle of Normalization* (Wolf Wolfensberger); *On Being a Christian and a Lawyer* (Thomas Shaffer); *The Ecological Approach to Visual Perception* (James Gibson); *The Struggle for Human Nature* (Barry Schwartz).

Topic: *Nature*

Books: *Man and the Natural World: A History of Modern Sensibility* (Keith Thomas); *In Memoriam* (Tennyson); *Preludes: A Parallel Text* (Wordsworth); *The Imperative of Responsibility* (Hans Jonas); *Preserving the Global Environment: The Challenge of Shared Leadership* (Jessica Mathews, ed.); *Metaphysics,* book 5 (Aristotle); *Studies in Words,* essay on "Nature" (C. S. Lewis); *The Return to Cosmology: Post-Modern Sciences and the Theology of Nature* (Stephen Toulmin); *Experience and Nature* (John Dewey); *Toward a New Philosophy of Biology* (Ernst Mayr); *The World within the World* (John Barrow); *In Search of Human Nature* (Carl Degler); *Myths from Mesopotamia* (Stephanie Dalley)

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