Agreement about research questions can strengthen disciplinary identity and give direction to a field that is still maturing. The central research question this article poses foregrounds texts, broadly defined as verbal, visual, and multimedia, and the power of texts to mediate knowledge, values, and action in a variety of contexts. Related questions concern disciplinarity, pedagogy, practice, and social change. These questions overlap and inform each other. Any single study does not necessarily fall exclusively into one area. A mapping of a field’s research questions is a political act, emphasizing some questions and marginalizing or excluding others. The emphases may change over time. This mapping illustrates reasons for the tensions between the academic and practitioner areas of the field. It also points out their shared research interests and opportunities for future research.

**Keywords:** research; disciplinarity; pedagogy; practice; social change

A couple of years ago, when a colleague in engineering met me and learned of an academic field in technical and professional communication, he asked me, “What are the research questions in your field?” The question surprised me. I could have easily said what my own questions were, but to speak for the field demanded more. I wondered how many of us who do or use research in technical communication would answer his question in a way that suggested the purpose and coherence of our separate projects. Would we agree about our overriding research questions?

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**Author's Note:** I am grateful to my colleagues at Virginia Tech, who debated research questions as we developed our proposal for a PhD in Rhetoric and Writing. My colleagues Kelly Belanger, Clare Dannenberg, Carlos Evia, and Kelly Pender commented on an early draft. Ann Blakeslee, Rachel Spilka, David Dayton, and anonymous reviewers also offered helpful advice. Address correspondence to Carolyn D. Rude, Department of English (0112), Virginia Tech, Blacksburg, VA 24061; e-mail: carolyn.rude@vt.edu.
The engineer’s question points to the following fact: The identity of any academic field is based in part on the research it conducts. Well-established fields are identified even in dictionary definitions as areas of study. For example, Dictionary.com (n.d.) defines history as a “branch of knowledge dealing with past events”; biology as “the science of life or living matter in all its forms and phenomena, esp. with reference to origin, growth, reproduction, structure, and behavior”; and philosophy as “the rational investigation of the truths and principles of being, knowledge, or conduct.” But technical communication is commonly defined as a practice, not as an area of research.

Identifying unique research questions for technical communication is challenging because it overlaps with other communication fields. Technical communication shares and borrows methods, theories, and even content areas with design communication, speech communication, and rhetoric and composition as well as with psychology, education, and computer science. These fields share questions about usability, Web-site design, and information management. What makes technical communication distinct and recognizable? (From a darker perspective, what would be lost if the field vanished?) An academic identity with research that others recognize requires some consensus on the value we bring to knowledge making and a sense of sustained inquiry that gives our questions meaning beyond specific practices, programs, and studies. Our questions need to be both focused and broad, suggesting our inquiries without constraining them.

Research questions, more than research methods or topics, define a field internally and externally by pointing to the knowledge making that is unique to the field. Questions are dynamic and generative. If they are good questions, the answers gained through research point to refinements or extensions of the questions—more questions. Common questions suggest the coherence of the field. Methods enable a researcher to explore an answer to a question, but they are shared with and borrowed from other fields. Topics are static until questions are framed about them. A topic (e.g., uses of color in Web-site design) does not have inherent significance. A question (e.g., How does color influence a user’s Web site navigation?) arises from a rhetorical exigence (the need to navigate Web sites) and the anticipation of possible solutions (using color). The question also identifies the gaps in knowledge that necessitate the research (e.g., how designers can accommodate users with color perception deficits). The exigence defines the significance of the research, and the question dictates the appropriate research method.

In this article, I propose a central research question and four areas of related questions for technical communication. I aim to suggest the
coherence of the field’s research and its promise for the future as well as its connections to other areas of inquiry and to other communication specializations, including rhetoric and composition. My claims are broad and no doubt disputable. I am launching an issue for discussion, not presenting a finished study. I have tried to be candid throughout about the limitations of this work.

Research in technical communication asks questions that are variations of this central question: How do texts (print, digital, multimedia; visual, verbal) and related communication practices mediate knowledge, values, and action in a variety of social and professional contexts?

Four areas of related questions suggest the directions researchers have followed in responding to that broad question:

- Disciplinarity: How shall we know ourselves? What are our definitions, history, status, possible future, and research methods?
- Pedagogy: What should be the content of our courses and curriculum? How shall we teach students best practices, history, and possibilities? How shall we negotiate competing claims for content and pedagogical methods and compete for academic resources?
- Practice: How should texts be constructed to work effectively and ethically? What design practices include international users and users with disabilities? What are best practices of text development and design? How can content be managed for reuse?
- Social change: How do texts function as agents of knowledge making, action, and change?

In the following sections, I explain how I arrived at these questions, elaborate on the questions and the mapping metaphor, and offer an overview of research directions in each area.

The Context for Asking About Research Questions

Two strands of inquiry, on disciplinary status and on research methods, provide context. The ongoing question about the status of the field, both in academic and corporate work settings, is addressed by multiple authors in the two-volume collection edited by Kynell-Hunt and Savage (2003, 2004). Savage’s (2003) introduction to the first volume includes these bold statements: “The technical communication field lacks the status, legitimacy, and power of mature professions,” and “we cannot be recognized by others if we cannot even recognize ourselves” (p. 1).
Multiple reasons explain our still unformed disciplinary identity and lack of external recognition, including the relative newness of the field as an area of inquiry, the association in both corporate and academic settings of technical communication with service to more dominant fields (engineering, information technology, business), and the adjunct status of technical communication programs within the English departments in which they are usually housed as well as within the broad field of rhetoric and writing. English itself is marginal within the university. We are intruders as well as newcomers both in academic and corporate settings. As intruders, we are threats to the established order; as newcomers, we are sometimes presumptuous. Savage’s (2003) introduction points to Grice and Krull’s (2000) observation that we “dabble” in usability studies alongside graduates of programs in psychology and training. The charge of dabbling might be applied to work beyond usability studies. The close association of technical communication with information technology (IT) is both a strength and a vulnerability. IT provides jobs, jobs provide reasons for academic programs, and the industry’s questions about best practices motivate research. But too close an alliance with another field subjects us to the vagaries and definitions of that field and diminishes our agency in determining our own values and purposes. And the association with this industry or any other is denigrated by some of our colleagues in English studies as too practical and material.

The second strand of inquiry that informs this article is about research methods in the field. Conversation about methods has been prompted by the development of doctoral programs in technical communication and the need to prepare the next generation of researchers. At meetings and through the listservs of professional organizations, such as the Council for Programs in Technical and Scientific Communication and the Association of Teachers of Technical Writing (ATTW), members frequently raise questions about research methods. This need to discuss methods reflects the training of the first generation of technical communication researchers primarily in textual analysis. Our research questions demand a greater variety of methods. The need to understand and use methods beyond textual analysis pushes the field to greater research capability. These ongoing conversations as well as publications on methods emphasize the importance of research in defining, sustaining, and creating significance for a field.

My effort to map the research questions of the field responds to both inquiries. A shared understanding of research questions is one way in which we can recognize ourselves and describe ourselves to others. Agreement on common questions may suggest connections between the interests of
academics and of practitioners. It may encourage collaboration. It may
make explicit the potential of the field to contribute to the world’s knowl-
edge beyond its own pedagogy and practice. It may reveal the significance
and focus of the field’s research in ways that encourage new research. A
field that has a sense of itself through its research questions is also a more
sustainable field than is one in which the research is ad hoc and
opportunistic.

The Mapping Metaphor

A map contrasts with a taxonomy as a way to analyze a subject. Certain
biases are inherent in either choice. The taxonomy foregrounds categories
and order. Visually, it might be represented in an outline. Categories seem
complete within themselves—separate, easy to mark with roman numerals
and letters. Categories can be generative in the way that any analysis is gen-
erative: They provide a scheme and a vocabulary for talking about particu-
lars and even about relationships. Maps show spatial relationships and
provide directions. Paths through geographies, systems, and buildings can
be hard to represent through words alone. Maps encourage movement and
exploration and the breaking down of boundaries. Maps identify spaces and
call for attention: To “put it on the map” is a way to emphasize an issue,
idea, or program by giving it a space.

Any mapping of a field will construct its power relationships. As Barton
and Barton (1993) observed, the map is “quintessentially ideological” (p.
50), “complicit with social-control mechanisms inextricably linked to
power and authority” (p. 53). They illustrated the hegemonic process by
which some meanings and practices are chosen for emphasis and others are
excluded or repressed. If we are to understand ourselves and our field, we
must understand where power is located and how it shifts. Sullivan and Por-
ter (1993) introduced the idea of a “curricular geography” to the field.
Instead of defining a discipline by a body of knowledge, they consider it
 spatially, as it negotiates for space, noting the struggles within English stud-
ies as multiple disciplinary interests compete for the allocation of space.
They observed that “arguments about territory always involve struggle
among competing ideologies for control of the terrain and of the knowledge
that constitutes that terrain” (p. 390). Johnson-Eilola (1996) invoked a
mapping metaphor as a replacement for narrative in the way we understand
ourselves:
The map has started to replace the story as our fundamental way of knowing. The new emphasis on spatial rather than temporal or historical concerns goes by a number of titles—postcapitalism, networked workplaces, nonhierarchical management—but the most popular (and often misunderstood) is postmodernism.

The areas of questions surrounding the central question as illustrated in Figures 1, 2, and 3 are places of inquiry, where questions emerge. Connecting the related questions to places suggests their identity as *topoi*, the places in classical rhetoric where one finds arguments, interpreted in modern times as *topics*. Disciplinary questions come from the constructed place of disciplinary identity. They span all areas but are a unique space because of their focus on discipline. Pedagogical questions emerge from and are relevant to academic and corporate classrooms. Practice questions emerge from various sites where professional technical communicators are employed or volunteer. Social change questions expand the horizons of the field through research that is unlimited by the boundaries of work by practitioners and specialists. They reflect a discipline’s responsibility to contribute beyond self-improvement and self-perpetuation as well as the relevance of this field’s knowledge to the public sphere. They connect to other research questions because they concern the uses of texts and related communication practices to shape knowledge, values, and action.

Mapping the research questions and the visual representation of relationships should suggest networks and intersections more than categories and boundaries. The questions and studies span areas. The maps should invite researchers to eye new territories with the intent to explore and even to possess. A mapping of questions over time might show shifts of priorities, but the central question might remain fairly stable and recognizable. My map focuses on the past 18 years. It begins with the 1990s. What happened in the field after 1990 incorporated the sweeping changes of the 1980s—the growth of academic programs, the surge in the demand from the IT field for technical communicators, the growing interest of academics in writing in nonacademic settings, and the shift from logical positivism to social construction as a dominant concept of the way texts function.

My map reflects my own position and biases as an academic. By using books as my content for analysis, I privilege the sustained inquires of academics over the more nimble, just-in-time inquiries that are usually published in articles, addressing immediate problems of communication and practice. I have chosen books not to fix the map but to start the conversation.
and to manage the volume of data within the limited space of a journal publication.

**Analysis of Book Content**

To learn about the questions that have driven this field since 1990, I have examined the explicit or implicit statements about purpose or research questions in the prefaces or introductions to 109 books that address technical communication in whole or in part and have sampled the contents of those books (see the appendix for the list of these books). I included books if they were published within series dedicated to technical or scientific communication, including the ATTW Contemporary Studies in Technical Communication (now published by Greenwood, formerly published by Ablex), Baywood’s Technical Communication Series, Routledge/Taylor and Francis’s titles in technical communication (assumed from Erlbaum in 2007), and State University of New York Press’s (SUNY) Studies in Scientific and Technical Communication, as well as relevant titles from the Southern Illinois University Press Rhetoric and Composition series and titles in technical communication published by Wiley and by Hampton Press. I also included books from other publishers by authors who are active in technical communication professional associations because their participation suggests some identification with this field. This use of books is large-scale content analysis. The selection criteria of publication date, direct focus on technical communication, and book content exclude other titles that seem relevant. My analysis also excludes the huge corpus of articles published during the same period, some of them more influential than the book-length studies. The selection based on books tilts the discussion toward work by academics interested in the sustained studies that result in books and also tilts the discussion to work in North America. The selection may unintentionally imply boundaries on what we read and use, but the intent is to focus on work in the field in the interest of mapping the questions of the field.

I have not tried to provide a comprehensive literature review but rather to sample representative texts to foreground the questions asked and their relationship to the central question. To frame these questions and their relationships, I began with a tentative scheme of research questions and literally placed the books in piles on my desk according to a first impression of the dominant question (whether it relates to the discipline, pedagogy, practice, or social change). Of course, many books relate to more
than one area, and the boundaries of stacks are artificial. Placement sometimes shifted as I analyzed the work on a given topic. Still, I was surprised to discover four stacks about equal in height. Our research, at least as represented in books, has been well distributed.

The Central Question

The themes and concerns that cross the four categories of the books led to the framing of a central question: How do texts (print, digital, multimedia; visual, verbal) and related communication practices mediate knowledge, values, and action in a variety of social and professional contexts? A key word in this question is texts. Our communication work is usually inscribed in some manner, whether in print, online, or in multimedia, including video and sound recordings such as podcasts. Although the work of technical communication is not exclusively about texts, so much of our expertise concerns texts that a research project that did not consider texts would be rare.

Although the central question emphasizes texts, researchers seldom examine only the text. Texts are interesting as they are used within activity systems. The phrase related communication practices recognizes that the text itself exists in an activity system—situation analysis, development, production, and circulation—all of which involve communication. Practices include interactions (meetings, collaboration, negotiation), research (audience analysis, interviews, analysis of technical support data, site visits), translation and localization, review (editing, expert review, usability testing), visual design and production, and circulation (content management, search systems, publication and other distribution). The use and development of tools to enable these processes are also related communication practices.

The verb mediate indicates that writers, the organizations that hire them, and the texts they produce influence what readers know and do and even what issues get noticed. These choices include deciding whether to write and publish at all, where to publish and in what medium, whether to invest in usability testing and review, and how to make the text accessible and to whom. Choices at the textual level—content, emphasis, organization, style, visual design—also influence what readers and users know and do.

The words knowledge, values, and action identify the outcomes of texts. They are loosely related to the forms of rhetoric—forensic, epideictic, and deliberative—collectively reflecting the work of social organizations.
“Learning to know” and “learning to do” describe broad purposes of texts created by technical communicators, with learning often in the service of doing (Redish, 1988). The values outcome may be more implicit than explicit in much work, but just as values are powerful means of achieving social cohesion and trust in a society, so are values important in our organizations of classrooms, workplaces, and situations beyond these settings in which texts are used to establish or change policies and priorities. The topic of values is explicit in studies of ethics and of public controversies and crises and in efforts to modify policies. Appropriate actions are desired outcomes of manuals, proposals, and reports, and the actions include acting ethically.

The term contexts acknowledges that texts are not separate from their origins and impacts. The reason for any text emerges from a situation requiring some intervention that a text can provide. In Bitzer’s terms (1968), a rhetorical exigence, an urgent need that discourse can modify, gives rise to the text. The urgent need might be to enable people to use complex software, but it might also be the need for a manager to make a decision or for an organization to change a policy that could harm the environment. The field’s contexts are broader than the workplaces where technical communicators are employed. They also include social contexts in which texts are used as a means of developing and circulating knowledge and enabling action. Thus, the public sphere provides sites for research and the knowledge and influence of the field.

Before the 1980s, mediate, related communication practices, and contexts might have been unlikely terms in a central research question for the field. The stated goals of technical writing were accuracy and clarity; the text was considered to be a transmitter of information rather than a mediator. The Society for Technical Communication (STC) then used the metaphor of conduits to describe the work of writers. The metaphor implied that writers could get out of the way—to let accurate information speak for itself and not interfere with the transmission of meaning to a user. In retrospect, however, the work of the field has always been aligned with this question. For example, the use of texts in World War II to enable soldiers to use new technology illustrates texts mediating action in a specific context and in conjunction with related communication practices.

**Ways to Map the Research Questions**

Figure 1 maps ways in which the four areas of research questions overlap. The connection between pedagogy and practice is close, especially
Figure 1
Research Questions in Technical Communication

**Disciplinarity**
How shall we know ourselves? What are our definitions, history, status, possible future, and research methods?
Where have we been? Where are we now and why? Where can and should we go?
What external forces will shape the field?
How do our directions affect pedagogy and practice?

**Pedagogy**
What should be the content of courses and the curriculum?
How shall we teach students best practices, history, and possibilities?
How do students learn to write in an increasingly technological, multimedia, cross-cultural, and international world?
How do they learn to collaborate? How do they learn the field’s values? How do they learn to understand ethical issues in communication?

**Social Change**
How do texts function as agents of knowledge making, action, or change?

**Central Question**
How do texts (print, digital, multimedia; visual, verbal) and related communication practices mediate knowledge, values, and action in a variety of social and professional contexts?

**Problem Solving**
How do texts influence decisions about what problems are significant?
How do texts construct problem definitions, power relationships, meaning, and actions?

**Information Design**
How can texts best use color, illustrations, search features, layout, typography, organization, genre adaptation, style, and media to achieve informative and persuasive goals? What are the ethical implications of choices?

**Practice**
How should texts be constructed to work effectively and ethically?

**Sites of Practice**
How do texts mediate the questions and findings of science? Attitudes to the environment? Organizational priorities and behavior? How do people use language to know and learn specialized knowledge?

**Critique and Analysis**
When practice fails, what are the reasons? When it works well, why?

**Development and Management**
How can content be managed for reuse? What are best practices of audience analysis, participatory design, content development, collaboration, usability testing, accessibility testing?
What is the role of technology in document development? How does technology influence access and understanding?
Figure 2
Examples of Book-Length Studies in Research Areas of Technical Communication

**Disciplinarity**

**Social Change**
- *Signs, Genres, and Communities in Technical Communication*, Killingsworth & Gilbertson (1992)
- *Community Literacy Programs and the Politics of Change*, Grabill (2001)
- *Community Action and Organizational Change*, Faber (2002)

**Pedagogy**

**Practice**
- *Managing your documentation projects*, Hackos (1994)

**Central Question**
How do texts (print, digital, multimedia; visual, verbal) and related communication practices mediate knowledge, values, and action in a variety of social and professional contexts?
Central Question
How do texts (print, digital, multimedia; visual, verbal) and related communication practices mediate knowledge, values, and action in a variety of social and professional contexts?
when pedagogy concerns undergraduate or master’s-level preparation of graduates for practitioner positions. Course content and methods are heavily influenced by knowledge of how people work in nonacademic settings. Likewise, decisions about pedagogy are informed by reflection on how the field defines itself and its priorities, the disciplinary questions. The area of the map at the lower left corner expands the boundaries of the field beyond the practice related to jobs and careers. It represents an area that would be least recognized by people outside the field and even by many practitioners. The books in this area are by academics whereas many of the publications in the adjoining area to the right are either by practitioners or by academics closely associated with practice. The juxtaposition suggests some of the tensions between academia and industry.

Figure 1 has no background, as though the questions can be asked in isolation. A more accurate (and complex) map would show the relationships to other fields, especially rhetoric and composition and communication studies, as well as to information technology, history, cultural studies, linguistics, psychology, literature, and science and technology studies. Another background might feature the digital connectivity that has transformed communication practices or a map of the globe to indicate the reach and connections of communication and some representation of the situations that give rise to the need for texts.

Figures 2 and 3 provide different perspectives. Figure 2 was much harder to construct than Figure 1. Identifying books that illustrate the questions implies more rigid boundaries of book content than do the questions of Figure 1. Many of the books listed could have appeared in more than one area. For example, Online Education (Grant-Davie & Cook, 2005) is about pedagogy, but it is also about practice because online education is available to people who are working full time, and the goals of those students influence the pedagogy. Furthermore, the book touches social issues with its origins in the global economy and technological change. Issues overlap even if questions about them differ. On intellectual property questions, for example, a publications manager needs to know what is legal, but someone working in the area of knowledge development and social change might be more concerned with the changes that new laws and policies create. The important questions of genre, activity theory, rhetorical theory, other theories, and ethics are “all over the map”—they influence all the other inquiries—though I locate these studies primarily in the area concerned with the ways in which texts function in social transformation. In Figure 2, I aim to clarify the questions by offering examples to affirm that each area is represented by a body of work and to illustrate the work.
Figure 3 maps the research based on the search topics at tc.eserver.org, a database of more than 12,000 publications in technical communication that are available online. The categories of topics on the home page of eServer are placed in the areas of Figure 3 according to their relationship to the four questions. The dominance of those topics in the practice area may reflect that shorter materials available online—for example, articles and conference proceedings—often respond to workplace questions. The topics may also reflect the interests of the site designers. The differences in Figure 1 (including the inquiries of technical communication beyond its usual sites of practice) and Figure 3 (with a stronger emphasis on practice) may suggest a struggle for power to define the field or a gap between the interests of academics and practitioners. A map can also reflect special interests rather than the comprehensive reach of the field.

Yet another way to understand the field’s research questions would be according to the following five sections of the Handbook of Research on Writing (Bazerman, 2008): history, society, schooling, individual, and text. The divisions in the handbook reflect writing broadly defined as a means of inscribing “our place in the literate world and all the social systems that depend on literacy” (p. 1), but Figure 1 focuses more specifically on technical communication, including its interest in professional practice. Two analyses of technical communication research—of dissertations (Rainey, 1999) and articles (Smith, 2000)—identify areas of research similar to those defined in this article. Rainey’s topics are the profession, document and instructional design, forms of professional communication, and dimensions of professional communication (pp. 508–509). Smith’s topics are professional issues (definitions, pedagogy, methods), rhetoric, document design and technology, and workplace communication (p. 428). Although both sets of research areas would modify the terms of the map in Figure 1, the main difference is that Figure 1 offers a central question that connects the specific areas.

Although the figures suggest ways to map our inquiries (and the limitations of trying to do so), the more important issue than what goes where is what questions have been asked and how they have been answered so far.

**Disciplinarity Questions**

_How shall we know ourselves? What are our definitions, history, status, possible future, and research methods?_ All disciplines consider their identity as it exists and might change, but emerging disciplines foreground such questions because of their need to carve out a space for their work. The
collected work on disciplinarity reveals recurring questions about academic-industry relationships and about power. A less explicit question concerns technical communication and knowledge development.

Definitions and the Academic–Industry Relationship

Some titles and terms used in recent technical communication publications suggest that the field’s definition requires more exploration: reshaping, revising, reenvisioning (Mirel & Spilka, 2002); remapping (Sullivan & Porter, 1993); reconfiguring (Rehling, 2004); rethinking (Russell, 1997). The prefix re implies an established identity that should now be modified, but it also reflects a failure to pin down the characteristics. Ongoing efforts to define or redefine also suggest dissatisfaction with the definitions in play. Academics know that defining a field by practice keeps them on the margins of power. The re suggests a need to try again to mark the territory of the field in order to gain more power. Some academics resist association with the power structure of science, technology, and business, which, like any dominant power, marginalizes some people and values. Miller’s (1979) influential article “A Humanistic Rationale for Technical Writing” became the touchstone for thinking about the field through the 1980s and beyond. It is influential because it is a smart and elegant article that articulates the differences between logical positivism and social construction. But by invoking the humanities, it may appeal as well to faculty prepared in literature who seek redemption for working in a practical field aligned with engineering and business.

Several studies explore the relationship between academia and industry. This relationship, though sometimes uneasy, is critical because the need to provide useful information on complex processes and technology explains the field’s origins and growth. In Mirel and Spilka’s (2002) collection, authors ask where we are going in both academia and industry (p. vii) and how should we “move the field forward in new directions” (p. xv). The 11 contributors focus on the academic–industry relationship and the need to bridge a perceived gap in the interests of the two groups. The contributors collaboratively produced an excellent set of research questions (pp. 199–201) whose topics, such as user and task analysis, design choices, and project management, suggest practice. In framing research questions around practitioner issues, the contributors point to ways in which academic researchers and practitioners can work together on common interests with a reciprocal relationship between research and practice.
Questions of Power

Studies of power lament technical communication’s relatively powerless place in academic and business settings but also express resistance to the dominance of science, business, and industry. Both volumes of *Power and Legitimacy in Technical Communication* (Kynell-Hunt & Savage, 2003, 2004) consider history, professional organizations, methods, theories, and sites of practice. The chapters document the lack of power in its many varieties, but they also suggest means of acquiring power: through more collaboration of professional associations (Carliner, 2003), by returning to our roots in practical applications (Tebeaux, 2004), and with “effective representation” through subject-matter knowledge and social knowledge (Sullivan, Martin, & Anderson, 2003).

Practitioners continue to feel marginalized and undervalued. In efforts to improve their status, the job title has evolved from writer to communicator to information developer, designer, or architect, suggesting their creative and substantive contributions. In some work settings, practitioners participate in planning products. Studies of the value added by technical communicators counter some bottom-line arguments that texts and their production drain costs and do not contribute to profits. STC’s Body of Knowledge (BOK) project aims to define “skills, concepts, and fundamentals that make up what is called a body of knowledge” for professional technical communicators (Dayton, 2008). A Web-based knowledge portal will provide a way to communicate the value of technical communication, a self-assessment tool, a means of evaluating academic programs, and a definition for the 21st century.

To identify the knowledge and value of technical communication, it would be helpful to know where careers develop, not just where they start. Can we point to career paths that lead practitioners from entry-level jobs to positions of leadership? Can we also show the connections between where practitioners begin and where they end, a career path that shows a trajectory rather than abandonment of the starting point? Could a definition bring to mind change agents, innovation, the bridging of technology and texts, thinking that is comprehensive and cross-disciplinary, designing, problem solving, decision making, and knowledge development? In a related question, do our pedagogies prepare future practitioners to think in original and comprehensive ways that might put them on a path toward leadership?

The negotiation of space within academe continues. Technical communication faculty, courses, and programs have increased significantly over the past two decades. Yet a recent book published by the National Council
of Teachers of English, *English Studies: An Introduction to the Discipline(s)* (McComiskey, 2006), omits technical communication from its list of the six disciplines that constitute English studies. This book includes chapters on linguistics, creative writing, rhetoric and composition, literature, critical theory and cultural studies, and English education. Given the growth of technical communication and professional writing in English departments, the omission is stunning. A generous interpretation would be that this field has failed to make its contributions visible. An alternative explanation suggests politics and power—anxiety about the surge of the “immigrant” field and an effort to suppress it. So long as such omissions in the representation of technical communication occur, questions about the nature and space of the field and the need to negotiate will continue. Our warrant for academic space has to be more than preparing graduates for corporate jobs because most colleges and universities see the goals of education as broader than job training. The jobs themselves need to be defined in terms of careers: What does the field prepare students to do beyond getting employed in entry-level jobs? Although job availability convinces students and university administrators of the value of a degree in technical communication (or English) and helps justify claims for resources, jobs are limited markers of status for an academic field.

**Histories**

The histories of the field tell various stories about the mediation of texts on knowledge and action. They establish some boundaries for technical communication in practical discourse, the language and texts that get things done in the world. The histories ask questions about contexts and influences on the evolution and contributions of the field, whether the context is the printing press (Tebeaux, 1997), engineering education (Kynell, 2000), or the need to control technical and scientific knowledge (Longo, 2000). These histories are focused on particular times and situations, and a comprehensive history of the field has yet to be written, but specific histories hint at some likely themes. Although the historical studies do not foreground questions about connections between technical communication and knowledge, collectively they suggest that what connects the practices of technical communication over time and in different contexts is the development and uses of knowledge, especially the kind of knowledge that enables people to get work done, with work defined not just as daily tasks but also the work of shaping policies and making decisions—governance at all levels. Throughout the history of this field, there has been a relentless interest
in using texts to make tacit knowledge explicit in order to prepare the next generation of princes, scientists, engineers, or users of technology for their work in the world. The need for knowledge and informed action in a variety of contexts becomes a reason for texts. Although texts are sometimes regarded as mere conduits for knowledge made by others, researchers increasingly understand the reciprocal relationship of the text, the inquiry, and the establishment of what counts as knowledge. The linking of technical communication and knowledge should not be surprising because language is a means of conceptual work. One of our research questions, then, concerns how texts are used in the making of knowledge.

Whitburn (2000) wrote in frustration about the narrowness of scope in the field (a problem that precludes influence and significance), but he found promise in the application of Isocratean rhetoric to global problems. His call to participation in the world is consistent with frequent claims about the responsiveness of technical communication to social action:

Instead of working in monastic seclusion, telling their texts and instruments in ivory towers, professors must become actively involved in professional and public affairs. Only through such involvement can they familiarize themselves with the problem contexts of civilization and acquire the power to participate in deliberations about choice. (p. 233)

Whitburn’s call for engagement may increasingly be met in teaching that embraces service learning and in research that uses field methods to examine the uses of texts in solving a variety of social and professional problems.

Research Methods

Questions about research methods are closely tied to questions about disciplinary identity. When research questions primarily concern texts and cognition, methods include textual analysis and measurement of reader response. If inquiry takes researchers into sites of practice, field methods are necessary to describe the practices in their contexts. When inquiry is constrained by the values of the organization that supports it, the methods will reflect the organization’s values. For example, if an academic department requires funded research as a measure of faculty contributions, some research questions and methods will be determined by what kinds of research can be funded.

In the introduction to Research in Technical Communication, Gurak and Lay (2002) acknowledged the range of research methods in the field,
including ethnographies, textual analyses, historical research, surveys and questionnaires, and experiments. Along with the diversity of methods is a diversity of artifacts that researchers study. What holds the work together? According to Gurak and Lay, “what the field has in common...is an interest in the relationship between applied areas—in particular sciences and technologies—and the ways in which language is used to convey, construct, and communicate these areas” (p. vii).

Textual analyses continue to be significant, but methods are increasingly social and empirical, linked to sites of practice. Methods must accommodate the assumption that writing is a social activity, often produced collaboratively but also influenced by and influencing the context. The prevalence of case studies confirms the local and contextual nature of writing, but immersion in cases raises questions about whether and how the findings can be generalized beyond the claim that writing is social and contextual. What can we take from one case to another? What are the contributions and effects of the studies, or are the contributions mostly local? Collier (2005) argued that overreliance on case studies delays contemplation of larger issues.

Blyler (2004) raised questions about methods and power. She argued that disciplinary discourse about qualitative research and the pursuit of funding for this research align technical communication with traditional sources of power in science, business, and industry and therefore with domination and exclusion. Rearticulating research practices as critical interpretive research of a participatory, not just analytical, nature would redefine issues of power. The researcher does not control which questions will be asked; rather, the questions belong to the participants with whom the researcher works. Power comes not from the alignment with traditional sources of power but from the empowerment of participants who are affected by the outcomes of research.

Since 1990, the field has expanded its subject matter; its numbers of academics, programs, and practitioners; its methods; and its publications. But it continues to ask questions about itself. The proportion of sustained inquiries that relate to disciplinarity, especially concerning power and the relationships between academia and industry, seems high even for an emerging discipline. Researchers should always be reflective and should critique their practices and values, but questions about identity and even negotiation of space might be easier to answer if proportionately more energy went to other questions of the field. Questions on power might shift their focus from frustration about what is missing to the contributions of the field’s research and practice, from identifying disciplinary
problems to using our knowledge about texts and related communication practices to help solve social, educational, and organizational problems.

**Pedagogy Questions**

*What should be the content of our courses and curriculum? How shall we teach students best practices, history, and possibilities? How shall we negotiate competing claims for content and pedagogical methods and compete for academic resources?* Questions about pedagogy ask how and what to teach and for what outcomes. Some, but not all, questions in this category are about course content and methods of teaching. These questions may concern course design or be more conceptual, exploring, for example, literacy or rhetoric as they influence curriculum. Political questions relate to the negotiation for intellectual space within the academy and the academic–practitioner negotiation of curriculum.

**Course Content and Pedagogical Methods**

Curriculum and pedagogical methods have been shaped by the question that drives so much of the research: What and how do people write in non-academic settings? Although the reason for asking the question is broader than pedagogy, the question has led to a corollary question: What and how shall we teach students to prepare them for this writing? Even before Odell and Goswami (1985) asked the question, others were researching writing practices in the workplace. For example, Souther (1962–1985) investigated how managers read reports and what they wanted to learn from the reports. Learning that managers read the executive summary, conclusions, and recommendations but paid little attention to the body of the report, he developed a “managerial structure” for reports with the data and discussion placed in an appendix in order to foreground the introduction, conclusions, and recommendations in the body of the report. This advice about report structure became a staple of some textbooks and reshaped the expectation that workplace writing is linear, moving from beginning to end.

A number of collections and single-authored studies have followed Odell and Goswami (1985), expanding and updating that work. Collections edited by Spilka (1993) and by Duin and Hansen (1996) nod respectfully to the earlier work. Schriver’s research (1997), identifying principles of document design from studying users interacting with documents, has permeated the
curriculum. Winsor (1996) followed four engineering students from their university experiences into professional practice, connecting education to practice in ways that are relevant for teaching engineers and professional communicators. Continuing this line of inquiry, Winsor (2003) examined the use of writing to negotiate knowledge in an engineering center. Although Spinuzzi (2003) was not primarily interested in pedagogy, his ethnography of people at work solving problems with texts informs teaching. Studies of writing in context have revealed the influence of organizations in determining writing practices as well as the importance of collaboration and have transformed a curriculum once based on a concept of the single author struggling to perfect the words on a page to be read solely by an instructor.

Interviews and ethnographies by Lutz and Storms (1988), Reynolds, Matalene, Magnotto, Samson, and Sadler (1995), and Savage and Sullivan (2001) are direct ways of learning about how the work that people do on the job in different contexts applies to teaching. In addition to systematic studies, some inquiries about practice as it might apply to curriculum have been informal, based on job descriptions and reports of professionals as well as faculty experiences in nonacademic workplaces. Other means of linking academics and practitioners—conferences, journals, faculty internships, and the use of adjunct faculty whose primary jobs are in industry—have resulted in a close relationship between curriculum and practice.

Learning what writers do beyond the academy—what they write, how they get information, how an orientation to users and usability shapes their thinking, how they collaborate, and how they use technology—has led to an innovative curriculum within English studies. Within writing studies as broadly defined, technical communication in the 1970s reestablished an emphasis on audience to guide responses to rhetorical situations. Typical undergraduate programs now include courses on visual information and design, user-oriented standards for defining document effectiveness, intercultural communication, Web-site development, content management, and project management. In addition, curricula often include the explicit study of ethics. Globalization and its impact on technical communication practice along with the persistent question of how people in nonacademic settings write have led to courses and course content in writing for international audiences. Because their course materials and methods so often emulate the writing done in nonacademic settings, graduates of degree programs in technical communication should understand, at least on a basic level, that writing mediates knowledge, values, and action.
The user-centered orientation to communication research and practice leads the field naturally to student-centered pedagogy. Although other writing programs have traditionally focused on individual writers and academic writing, technical communication programs take students into the world to solve problems, through service learning, client projects, and internships. Programs also emulate workplace practice in collaborative writing, the embrace of technology (e.g., ePortfolios, online education, technology for the production of texts and management of information), and the use of posters to present research. In many colleges and universities, technical communication is up front in these developments of knowledge and practice.

Curriculum has evolved along with workplace practices. In the 1980s, it was print based, with courses in writing and editing and in common print genres, including reports and user manuals. Now the curriculum is heavily influenced by technology, both in methods (online instruction, use of course-management software) and in content (Web writing, online help, and content management). Globalization influences the curriculum. Specialized textbooks for upper-division courses in areas such as document design, writing for the Web, international communication, and project management have expanded in number. Titles and descriptions of specialized textbooks in the Allyn & Bacon series (see www.pearsonhighered.com/), launched in the mid-1990s, show that these textbooks are more than how-to manuals for writing workplace documents. Whatever the genre (e.g., proposals, marketing materials, software documentation), the medium (e.g., print, Web site, oral), or the context of use (e.g., government, science, health professions, computer industry, service learning), students are learning to assess what texts are meant to do, how to research the situation and gain necessary information, and how to present results in ways that are ethical, usable, and appropriate for the need. Students are learning a practice based on principles, not just how to produce a text. Analysis of both the situation and the user is part of that practice, leading students to perceive that texts influence what users know and do.

Still, our curriculum seems geared toward entry-level practitioners. Whether faculty imagine their students as future change agents, innovators, and leaders is unclear. The undergraduate curriculum shows little evidence of explicit attention to the uses of writing in a literate society—the kinds of questions raised in the Handbook of Research on Writing (Bazerman, 2008). A vision of good, long-term career prospects would shape a curriculum linked to careers that continue to nourish and provide opportunities for smart, articulate graduates who can find innovative solutions to inevitable problems.
Conceptual Questions

Conceptual pedagogical research steps back from specific classroom practices to reflect on and critique assumptions and to offer new concepts. Productive lines of conceptual inquiry have been literacy (What makes a person literate in the 21st century?), technology (How does technology affect course methods and content? How can we adapt our teaching for contemporary learners and learning situations?), globalization (What communication practices enable people in different cultures to work collaboratively and to understand discourse originating in one culture but used in another?), and ethics (What are the ethical challenges in writing in nonacademic settings, and how can students be taught to recognize and respond appropriately to these challenges?). These questions are contemporary versions of the central research question.

The concept of literacy implies social significance. Literacy is the ability to function in a literate society using the competencies of literacy. It is inseparable from the context in which it functions. As Garay and Bernhardt (1998) observed, both the concept of literacy and its tools have expanded with new workplace requirements and technologies. Literacy is better defined not as isolated skills but as an ability to negotiate a situation that requires communication. The authors in Garay and Bernhardt’s collection look beyond the walls of academia to identify literacies. They consider implications of the 1991 U.S. Department of Labor Secretary’s Commission on Achieving Necessary Skills (SCANS), the National Council of Teachers of English (NCTE) Standards for the English Language Arts, and other markers of workplace trends as well as literacy in specific contexts, including manufacturing, the nuclear power industry, and health care. They also examine writing instruction in high schools and colleges to assess the match between preparation and changing workplace demands. The new literacies include ability to work as part of a team, solve problems, use technology, understand complex communication, and listen, speak, and visually represent information. These expectations have nudged the curriculum beyond a narrow concept of literacy as reading and writing. In chapter 1, Garay (1998) worried that the new standards neglect critique, but she embraced the need for adaptations in writing instruction to help students succeed after graduation.

Selber (2004) developed his sense of “multiliteracies” from questioning the limitations of a functional definition of computer literacy. The multiple literacies he described include critical and rhetorical literacies. Even functional literacy is more than the ability to use computers and software. Other
parameters of functional literacy include understanding social conventions that help determine computer use, using specialized discourses, managing an online world, and resolving technological impasses. Critical literacy means understanding computers as cultural artifacts and positions students as questioners of technology. Rhetorical literacy positions students as producers of technology, understanding and invoking, for example, the rhetorical nature of interface design. To be technologically literate, students should understand the biases and politics of technologies and the larger social environment in which technological activities take place.

Analyses such as these push faculty into reflective teaching practices and encourage critical thinking in students. The field would do well to encourage more studies of this type.

**Political Questions**

Stakeholders in technical communication pedagogy include faculty within technical communication programs, faculty in other programs within the university who compete for resources and the right to determine the nature and value of knowledge, organizations that hire graduates, and students themselves. The space for academic programs is contested, and stakeholders might map the territory in different ways.

The influence of practice on the curriculum enables a relatively seamless transition from school to work. Such a curriculum, however, might emphasize entry-level skills at the expense of critical-thinking and problem-solving skills that enable practitioners to become leaders and innovators. Having too close a tie between classrooms and sites of practice risks maintaining the status quo as both groups replicate familiar patterns. Henry (2000), using ethnographies of workplace culture, has been especially articulate about these risks. To counter the risk, longitudinal studies of technical communicators are needed to identify career trajectories and the kinds of strengths needed to advance in responsibility. Such studies could also identify qualities that give practitioners agency within their organizations and how these qualities can be taught.

Questions concerning the undergraduate curriculum have been plagued by questions about tools. Does knowing page design, Web design, or illustration software make an individual a good technical communicator? Some job descriptions suggest so by insisting on tool knowledge, perhaps to the exclusion of other knowledge. Academics, however, resist a curriculum defined by tool knowledge. Tools prepare one for production rather than for
research and writing. Questions about tools in the curriculum or as they influence careers tend to be answered by debate or by local constraints (e.g., whether faculty are available to teach tools or whether policies preclude tool courses) rather than by systematic inquiry. We do not know whether and how tool knowledge influences career trajectories or how tool knowledge relates to other competencies such as gathering, organizing, and managing information or designing usable documents.

The curriculum has also been challenged within the university, denigrated by those who believe anything tied to a practice is intellectually impoverished and questioned by those who may lose traditional literature courses. In universities, resources do not usually expand, only shift; gain in one area means loss in another. The usual arguments for expansion are enrollment pressure and jobs for graduates, but these arguments need to be supplemented with statements backed by research affirming the intrinsic value of the curriculum, including the value this field brings to the world’s knowledge.

In doctoral programs, the ties between practice and the curriculum are looser than for undergraduate and master’s degree programs. Practical courses seem inconsistent with the goals of a research-based degree. Yet graduates will likely teach practical courses. Some universities discourage pedagogical research, arguing that pedagogy is only the application of knowledge, not a source of knowledge. Such a value system discourages meaningful pedagogical research. Competing needs are resolved at the local level, within degree programs, according to the values and research interests of the faculty and institution.

What may be even more significant for the field and its future than relationships between doctoral programs and practice is the diversity of programs, represented in a variety of degree titles. Program differences encourage creativity and variety in research, but whether the doctoral programs are built primarily around local strengths or a shared identity marked by common research questions is uncertain.

**Practice Questions**

*How should texts be constructed to work effectively and ethically? What are best practices of text development and design? What design practices include international users and users with disabilities? How can content be managed for reuse?* Questions about practice are the most predictable and recognizable for a field that has grown with the demand for
writers who can enable people to use sophisticated technologies and specialized knowledge. Questions about practice concern two broad issues: text design (including usability) and procedures for developing and managing information (collaboration, management, cross-cultural teamwork, structured authoring, single sourcing). The practice area of the field also has its own status questions that are analogous to academic status questions. Practitioners have to counter skepticism about the value they add to products and their own second-class status in workplaces in which engineers, programmers, or scientists are generating information or developing products. Corporate downsizing and outsourcing have intensified practitioner anxiety about status and value. Usually the response has been organizational (e.g., cross-functional teams, changes in job titles), but some research (e.g., Redish, 1995) has explored the value added by technical communication.

**Design Questions**

Questions about document design, defined not just as visual design but also as content and media selection, organization, style, illustrations, and navigation aids, get to the heart of the work and significance of this field. Only when texts work for their users can they mediate knowledge, values, and actions. Fundamental concepts of text design foreground users. As Schriver (2003) wrote, “Information designers bring together words and images in ways that enable people to understand, take action, or make decisions” (p. ix). Schriver grounded principles of design in what people need and want.

Much of the collected research on design comes from other fields, such as cognitive psychology, reading, and graphic design, and is applied to technical communication. Tufte (1990, 1997, 2001, 2006), who would not identify his primary field as technical communication, has influenced the field’s understanding of data visualization. Like Schriver, Coe (1996) turned to cognitive psychology as well as to engineering, especially human factors, for concepts of designing for people. Design knowledge also develops as writers innovate in response to new situations, including new media, new tools, and different audiences. For example, innovations in online help began in sites of practice. As the types of online help were tested and refined, the knowledge about them became codified in trade books or textbooks.

Methods of research on the effectiveness of design for users of texts include usability testing and protocol analysis as well as tests of content
mastery. Corporate records on customer satisfaction and support calls also indicate how well the information products accomplish their goals of enabling users to understand and complete tasks. Schriver (1997) provided empirical bases for design choices. She went straight to users, including teenagers reading drug-education literature and users of audiovisual equipment, to learn how they responded to documents as well as to products. She urged the integration of document and product design. Her voice is one of several that have influenced some companies to include technical communicators on product-design teams because instructions, no matter how good, cannot make up for bad product design. The effect that technical communicators have on product design is anecdotal, but one possibility for measuring the value they add is to determine savings when their suggestions improve products.

Development and Information Management Questions

Questions about text development concern gathering information (through interviews of subject-matter experts, audience analysis, participatory design, cross-functional teams), determining how to present it, reviewing it (content review by experts, usability testing, editing, and testing for compliance with requirements of the Americans with Disabilities Act), and managing the process. When users of products and information are international, the process may include translation and localization. In spite of efficiencies such as templates and style sheets, each project presents its own variations and needs for decisions. Much of the work of this field is inventing new knowledge, not just applying familiar knowledge. Development of information for users is often a complex and long-term project. Managing the project requires assigning responsibilities to people and careful scheduling. Collaborators divide responsibilities but still work as a team. “Writing” requires more than interviewing an expert and putting words on a page.

Hackos (1994) was one of the first to apply the process of software development to the management of documentation projects. By specifying a multiphase model, she not only provided a handbook for project managers but also revealed the complexity of the process and thereby the specialized knowledge required for effectively managing people and time. She has continued to provide management guidelines as the field has turned to digital development and publication. Storing information digitally enables single sourcing and reuse, processes explored by Rockley (2002). Structured authoring builds the potential for reuse into the creation of text. Processes
change, but the need to develop, organize, and manage information remains constant.

An interesting turn in practice has been from obtaining content mainly from experts (engineers, programmers) to consulting users (a different kind of expert). Users contribute not just as test subjects at the end of development but also in the design phase, setting goals and specifications for products and the information that accompanies them. Spinuzzi (2003) traced worker innovations as they become formalized into system adjustments. Such research disrupts the assumption that expert designers create products for users in a top-down manner.

**Connecting Research and Sites of Practice**

Not surprisingly, much of the research on design and methods of information development and management is done by people who are aligned more with practice than with academics. Ament, Carliner, Hackos, Mirel, Redish, Rockley, and Schriver have all changed practice by their inquiries, presentations, and publications. Although some of these researchers have academic affiliations, their primary affiliations are nonacademic workplaces. Numerous other researchers have also contributed to knowledge and practice through their articles. Because these researchers work in the sites that give rise to the questions, they have access to the information and users needed to conduct the research. Work processes and information in highly competitive industries are proprietary and not accessible to academics. It is unfortunate that academics trained in research methods and whose jobs often require them to conduct research are separated, except by the occasional special arrangement, from the sites of practice for which research could contribute value. The potential for research on design and development is limited by researchers’ lack of access to the sites and data needed for analysis. If the field could solve this problem, academics and practitioners could collaborate more, and knowledge could grow.

One strong theme in disciplinary inquiry and pedagogy is critique and self-reflection. The gap between academics and researchers is caused not just by the lack of access but by a suspicion in the minds of many academics that the work of practice proceeds in the interest of corporate profit and that practitioners may contribute to corporate goals and hegemonic processes without reflecting on them. Such a generalized judgment is simplistic. A research project might aim to discover what practitioners think about the value and compromises of their work, how they reflect on the value systems
in which they work, and how they accept or try to change their organizations.

The Impact of Change on Practice and Research

Changes in practice are fast and furious. Economy and new technology have pushed publication to digital forms. The printed user manual, the centerpiece of work in the field just two decades ago, is a dinosaur now. Information developers write topics rather than chapters, and they organize information into searchable databases rather than manuals. Information may be developed by teams around the globe. These changes have led to a rethinking of design, including navigation, and the processes of development. The constant change requires a technical communicator who is an innovator and able to learn and adapt. Although the uncertainty feels precarious to some, it feels like opportunity for shaping the field and for personal growth to others. Changes and the responses to them open possibilities for research.

Social-Change Questions

*How do texts function as agents of knowledge development, action, or change?* Questions about and social change represent the most amorphous part of the map conceptually and the part that is least obviously tied to the others. As Figure 3 illustrates, topics related to this area are almost invisible at tc.eserver.org. Yet it is the growth area of academic research. These questions take us beyond the boundaries of our own courses, history, and practices to social, cultural, and political issues and to the nature of knowledge and meaning. Such questions presume that a field of study and practice contributes not just to self-perpetuation and best practices in its own area but also to the good of society. The field uses the knowledge it has gained in pedagogy and practice in the world, but, in turn, it brings back to practice and pedagogy new understanding about the uses of texts and related communication practices to solve problems in social contexts. Pursuing questions about the role of writing in human activity, particularly as writing enables negotiation and policy making, takes the field to its roots in rhetoric, developed as a means for free people to negotiate values and power and to take action.
Research in this area ventures into several social issues, with a cluster of studies on environmental issues. Killingsworth and Palmer (1992) launched this work in technical communication, aiming “to understand the relationships among language, thought, and action in environmental politics” (p. xi) and describing their work as “a study of rhetoric in use” (p. 1). They analyzed the environmental impact statement (EIS), showing that the language and other genre choices work against the stated purpose of the EIS to include citizens’ voices in actions that affect public lands. Herndl and Brown (1996), Waddell (1998), and Coppola and Karis (2000) have continued this exploration of texts and related communication practices as they mediate knowledge, values, and action on environmental issues. A recurring theme is the struggle for corporate or governmental efficiency at a cost to public safety and the marginalization of human voices. Sauer (2003) has also examined rhetoric in use. She studied representations of safety information for miners and discovered the importance of embodied knowledge, an important conclusion for a field that might give too much power to texts.

Studies of rhetoric in use can be historical as well as contemporary. Brockmann (2002, 2005) studied 19th-century technical and accident reports and their effect on laws and policies relating to transportation. He offered the sobering observation that federally funded technical reports by the Franklin Institute on steamboat accidents, characterized as being “cast in near-perfect form to secure legislative actions” (2002, p. 60), failed to result in the needed legislation to prevent steamboat accidents. At the same time, his historical study also reveals how the Franklin Institute creatively modified the genre of the technical report in order to make it more effective, an example of the innovation that continues to describe the practice of technical communication.

Such studies develop genre knowledge as well as knowledge of texts as parts of systems that require change. This knowledge comes back to the field to increase understanding of users and texts in contexts. Some researchers have wanted more: a direct impact on the kinds of situations and policies that they study. Grabill (2001), Faber (2002, 2007), and Simmons (2007) are all interested in participant roles for researchers—in shaping outcomes as well as in studying texts and related communication practices in their contexts. Like their counterparts in commercial workplaces, they have interacted with potential users of knowledge to define the goals of the project and research questions as well as to pursue outcomes. Part of the appeal of such research is access: Activist groups and public records are often more available to researchers than is work in competitive organizations.

Questions about knowledge and meaning as they relate to texts drive inquiry in the rhetoric of science and technology and in cultural studies.
as well as in technical communication. Studies in these areas ask how we know, what we know, and what constitutes knowing. Collectively, they have illustrated the work of language in thought and the making of knowledge. For example, Baake (2003) asked how metaphor “can stimulate productive scientific thinking, but without distorting that thinking” (p. 3). Scott, Longo, and Willis (2006) contested assumptions about knowledge and exposed the politics of what counts as knowledge. Johnson (1998) questioned technological determinism and the role of user knowledge in innovation.

The social issues that attract the attention of researchers in technical communication are diverse: the environment, health care, intellectual property and access to information, transportation, safety of workers, access to technology, science as it serves social goals, literacy, organizational change, ethics, and more. The thread that links them to each other and to the other parts of the map of research questions is texts and related communication practices, not the particular social issue. The field’s expertise is in the kinds of texts that enable people to get work done, whether it is work for pay, work that requires the use of complex technologies, or work that improves our communities by improving policies and decisions.

Still, it is fair to ask whether the diffusion of interests precludes impact in any one area. After all, the field is relatively small. A few brilliant books on the environment will not change the way society thinks about the environment—any more than the Franklin Institute’s perfect technical report could influence legislation on steamboat safety in the 19th century. Nevertheless, our study of texts in multiple situations can collectively generate recognizable knowledge about texts as they mediate knowledge, values, and actions—as they enable the kinds of human activity that require thought, communication, and negotiation.

It is also fair to ask whether these research interests divert attention from needed research in the practice of technical communication. The relationship between pedagogy and practice is reciprocal because graduates of academic programs get jobs in sites of technical communication practice. There is no corresponding site of practice for research in social change, except incidentally, and therefore no direct demand for the knowledge gained beyond the demand for results of specific studies. Although some graduates may work in nonprofit or government agencies, the lack of critical mass weakens the application and influence of research in those settings. Focusing on our common interests as represented by the central research question contributes to the identity of the field and the connection of its parts. We must represent these common interests as a strength of the
field because an internal struggle for attention and resources or a dismissal of one part or another could be critically divisive. At stake is the sustainability of the field.

As different as the titles in the social change area of the map are from titles in the practice area (see Figure 2), the inquiries share an interest in the ways in which texts and related communication practices mediate knowledge, values, and actions. Research in both areas presumes the value of knowledge about information design, development, and use. Some research projects from both areas engage participants in identifying questions, gathering information, and determining the usefulness and power of the text. In both areas, a concern for ethics is strong, as researchers and practitioners advocate on behalf of citizens and users. The questions are similar; the sites of inquiry differ.

These areas of technical communication will continue to push against each other. In spite of connected interests, the exigencies that give rise to their work differ, and the opportunities for interaction are too few. Whether that pushing strengthens or weakens the field depends on the willingness of participants to pay attention to each other and to inquire openly about the work that the other does.

**Conclusions**

Technical communication has grown opportunistically as a career field in service to other career fields, mainly engineering and information technology. Much of its energy has gone to pedagogy and practice. Although these issues will remain central, a sustainable academic field is built on research questions that develop knowledge. Given the field’s connection to practice, this knowledge must be recognized as enabling better work and use of the products it helps present to users. The impact of that knowledge is the value added to the products such as equipment and software. The field’s identity, however, resides not just in best practices for career practitioners but also in the knowledge that transcends practice. The identity and value of the field also reside in what it contributes to the world beyond better practices.

Technical communication has based its practices and teaching on research. Although we have borrowed research from other fields, we have also developed our own knowledge, particularly in relation to texts used to get work done. Research questions and sites, however, have sometimes seemed to be convenient and ad hoc, generated by a researcher’s personal...
interests and access to research sites or by the urgent needs of a work site rather than by a sense of participating in a field of diverse applications connected by common interests. This rapidly changing field has also required quick answers to questions. Because so many changes have occurred in the field, knowledge often gets developed on the fly. The practice and teaching of technical communication require improvisation and innovation. But practice seems necessarily driven by good ideas more than by studies to validate their worth. Do technical communicators participate meaningfully on cross-functional teams? Does single sourcing save the time and provide the consistency it promises in theory? Maybe it is enough to trust worker improvisation rather than a study, but studies and results are convincing to managers who distribute resources. From an academic standpoint, the urgent need for new information is better served by journal articles or anthology chapters than by sustained studies, but quick studies can seem piecemeal and scattered. It can be hard to locate what connects individual research projects.

In spite of the limitations of circumstance on research, the mapping of research questions suggests a significant coherence in what might appear to be disparate research projects. Interest in texts as they enable knowledge and action links academic and practitioner research. The questions offer breadth in the possibilities for inquiry. Analysis of the specific questions and results suggests many opportunities for additional research.

In this article, I have emphasized a central research question as a means of linking the parts of the field. But what about the question of whether this field as a whole contributes something unique, something no other communication field does so well? Could the central question be adopted by mass communications or communication studies or composition and rhetoric or linguistics or even by literature? The overlap of these related fields is inevitable and even good because different perspectives on issues reveal new insights. One possibility for defining the uniqueness of technical communication is this: No one else pays such close attention to texts used to get work done, particularly work that requires specialized knowledge. Work need not be defined by what one does to earn a paycheck or by the uses of tools, though that work deserves respect. The work that interests the field also includes such activities as changing environmental policy, raising funds for a nonprofit agency, searching the Internet for health care information, and representing immigration data visually to encourage analysis and sound decision making. Nor does this claim about the centrality of work to technical communication deny theoretical inquiry: The self-examination and knowledge that emerge from rhetorical and cultural studies, to name just
two, influence the ways in which we construct and critique texts and the values that go into design. Our texts are meant to be used to enable people to think well, to make informed decisions, and to take appropriate actions in the best interests of humanity.

Journalism sends information to a broad public. Readers are not necessarily expected to do anything with the information. By contrast, technical communication targets specific users, who are always as unique as the circumstances that require a text. Communication studies as a field is mostly interested in politics and policy and has its roots in oral communication. Of the communication fields, the research in technical communication maps most closely with that of composition and rhetoric. Take off the practice area of the map and the interests coincide well. Some of the books listed in the appendix would just as (or even more) comfortably fit into a map of the research questions of composition and rhetoric, and some from that field that are not listed here influence our field. Pedagogy questions focus on different courses with somewhat different purposes (academic writing, writing beyond college) and on different groups of students. The central research question for technical communication might well be the central question for the umbrella field of rhetoric and writing that includes composition.

Technical communication has produced a body of research that influences not just the design of texts but also attitudes toward and engagement with users. But we have not articulated very well to others our contributions to the world’s knowledge. A shared sense of our common goals in research could contribute to the field’s visibility, identity, status, and sustainability. Common questions connect the parts of this field and suggest possibilities for new research.

A more comprehensive analysis that includes articles would help to determine whether the research questions posed in Figure 1 describe this field’s accomplishments and potential or whether some modification is needed. This study would be daunting: Smith (2000) identified more than 25,000 articles in just 10 years of publication. A method of sampling would be necessary.

In addition to providing a comprehensive overview of the field, perhaps different from the one suggested here, new studies might examine the four areas in detail. The map of the field as a whole provides identity, but the value of doing so is to focus the research. Detailed analyses of the areas in light of the central question will reveal gaps in knowledge and opportunities for research. If mediate is the main verb to describe the effect of the texts we study, we need to know more about how texts have influenced
knowledge, values, and actions in a variety of contexts. What difference have they made? When they have made a difference, or failed to make a difference, do we know why? Such questions can sustain our work and our significance for a long time.

Appendix

Books Consulted to Identify Research Questions in Technical Communication

The following books have publication dates of 1990 or later. I excluded textbooks and handbooks though some of these titles are used as textbooks or handbooks.


References


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