

Chapter 12

Integrated Approaches to Teaching Rhetoric

Unifying a Divided House

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INTRODUCTION

Rhetoric has become a respectable enterprise once again: the recent “rhetorical turn” in the human sciences has made it relevant and interesting to other academic disciplines and has even moderated its ancient quarrel with philosophy. But rhetoric today is a house divided. The most prominent fact of its institutional existence is that it has two primary homes, in departments of English and departments of communication. In this chapter, we argue both the intellectual and pedagogical cases for academic integration of traditionally separate “modes” of communication (oral, written, and visual). Our account centers on three curricular experiments underway at North Carolina State University: a first-year course in speaking and writing, a campus-wide program in speaking and writing across the curriculum, and a project to combine instruction in writing and visual communication in lab reports for science courses. We also address the need for integrated programs at the doctoral level to provide faculty capable of creating future programs at the undergraduate level and to produce the research base that will transform our understanding of these traditionally separate modes.

While each of these initiatives presents unique problems and offers particular challenges to the goal of reunifying rhetoric, there are some theoretical issues that touch on all three. One obvious issue is what aspects of rhetorical theory can provide a unified framework for the design of courses not oriented exclusively toward composition or oral communication. Such a framework should provide a way for students to understand the fundamental similarities between different communication tasks, as well as to focus on differences in performance skills. We argue for a reconceptualization of the rhetorical situa-

tion as one such framework, but many other concepts also can serve a unifying function, such as *ethos*, *kairos*, or invention.

Another issue is the ancient one debated by Socrates and Gorgias: “What is the subject matter of the words employed by rhetoric?” (Gorgias 451d). In more contemporary language, what is the relationship between knowledge of a given discipline and the rhetorical action that allows it to be made available and persuasive to others? When taken outside of the rhetoric classroom, what should be the division of labor or the mode of cooperation between professors of chemistry or accounting and professors of rhetoric? We argue that situation-based genres provide a mid-level concept that can structure the intersection of broadly applicable rhetorical knowledge and discipline-specific needs and conventions.

Finally, we address the issue of how new communication technologies such as the World Wide Web and interactive multimedia make the division of rhetoric along the lines of writing and speaking even less rational and more counter-productive than it is now. Moreover, they require the inclusion of visual communication as an integral aspect of a new rhetoric. Since these new technologies make possible unprecedented combinations of traditional communication modes, the future of rhetorical education will depend on our ability to apply theory and research methods from one tradition to others and to use knowledge of past transformations to anticipate and understand the transformations of the future. By explicating these three initiatives and the issues that they raise, we seek to claim a theoretical and pedagogical unity implicit in the rhetorical tradition prior to the twentieth century and, in so doing, to establish principles that could ground a new rhetoric for the twenty-first century.

These potentially idealistic goals take on practical importance in the context of recent criticism of higher education. While faculty and administrators agree that it is important for students to have good written and oral communication skills, surveys of employers continue to indicate that communication skills is one of the major areas where they find college-educated employees lacking.

- A report by the Business-Higher Education Forum notes serious deficiencies in both oral and written communication skills in recent college graduates. Corporate leaders surveyed “stressed repeatedly—sometimes acerbically—that there is no excuse for graduates who cannot communicate effectively” (Business-Higher Education Forum 1997, 23).
- A recent study by the National Center for Public Policy and Higher Education, comparing views of academic and business leaders, found only *one* area of agreement about the performance of higher education: that undergraduates need better writing, speaking, and other communication skills. Eighty-nine percent of the leaders said that

ensuring that students graduate with top-notch writing, speaking, and communication skills is absolutely essential (Immerwahr 1999).

- The Boyer Commission recently noted that universities “confer . . . degrees upon inarticulate students.” Moreover, as the report notes, “hardly any [students] are exposed to courses or class requirements in oral communication” (Boyer Commission on Educating Undergraduates in the Research University 1998).

The current pressures on undergraduate education from employers and criticisms from elsewhere have a clear consistency: the single most important failure of the college curriculum in the United States lies in the communication arts.

DISCIPLINARY HISTORY

In the *Phaedrus*, Plato separated oral and written communication, because he did not want students reading and interpreting texts apart from a learned teacher’s direct intervention. But as the scroll hidden under Phaedrus’s cloak attests, both the practice and the pedagogy of rhetoric from the beginning involved oral and written communication together, and each historical age has used them in characteristic combinations. The shift from primarily oral forms of public communication to increasing use of written forms brought on by advances in communication technology, including the printing press, profoundly affected science and religion, as well as economic and political life. However, oral communication remained central to education up through the first half of the nineteenth century. But after the Civil War in America, instruction became more and more dominated by writing, chiefly out of a perceived need to prepare students for the literacy demanded of the technical workplace. After seeing their role in English departments grow smaller and smaller, speech teachers joined together in 1914 to establish the Speech Communication Association (now the National Communication Association) and began starting their own separate departments. Composition courses assumed a position as a basic part of the university core curriculum, but speech (and later communication) courses were not as widely required as part of the general education core.

While this separation between oral and written communication permeated the twentieth-century disciplinary history of rhetoric, there have been periods when the two branches sought to work together. Perhaps the most interesting case in point is the brief liaison between composition and communication in the fifteen years after World War II. Right after the war, the growth of the general semantics movement and an increased interest in the study of mass communication and war propaganda led to the rapid develop-

ment of first-year college courses in communication, uniting speaking, writing, and reading. At the same time, teachers of composition began to see themselves as part of a distinct field whose focus was the first-year composition course. The year 1949 saw the inauguration of two groups that represented the power of the “communication movement” in the United States: the National Society of the Study of Communication (NSSC), a subsidiary of the Speech Association of American, and the Conference on College Composition and Communication (CCCC), an affiliate of the National Council of Teachers of English (George and Trimbur 1999, 682–83).

Both groups had as their stated aims the pursuit of a productive relationship between oral and written communication. The problem, though, is that they were not able to maintain a productive relationship: whereas the CCCC defined itself primarily around a pedagogical agenda centered on first-year composition, the NSSC established its mission according to mainly theoretical goals (George and Trimbur 1999, 684). In the latter part of the 1950s, communication courses began to die out, largely because they tended to be housed in general education programs and therefore did not have the legitimacy that comes with departmental status (*ibid.*, 685). And the fourth C of the CCCC began to wither away because of an increased emphasis among composition teachers on writing as an epistemic and expressionistic act and a growing suspicion of the communication movement as being too utilitarian (*ibid.*, 690–96). The result was a renewed separation of the oral and written that persists in most colleges and universities today.

The latter part of the twentieth century witnessed a resurgence of interest in rhetorical education, but under the guise of teaching communication skills across university curricula. There are three current approaches. The first, known as WAC (writing across the curriculum), responds to a perceived gap between necessary writing skills and what students learn in first-year writing courses. Such programs usually comprise some combination of first-year writing courses and writing-intensive, upper-division courses. While WAC may be judged successful based on its wide adoption at colleges and universities across the country, it is limited in scope. It pays attention only to writing, at a time when professional and administrative audiences are increasingly recognizing the importance of oral communication skills. In addition, it has proven difficult to demonstrate the effectiveness of first-year composition courses, a real problem in an age of outcomes assessment in higher education.¹

The second approach to teaching communication skills across the curriculum is CAC (communication across the curriculum) which, while less broadly adopted than WAC, is taking hold in institutions where external audiences are clamoring for graduates with the improved oral communication skills necessary for dealing with multiple constituencies and moving up in one’s profession. This approach also incorporates first-year or basic courses with upper-division, oral-communication-intensive courses. There are three main

problems that CAC programs face: (1) traditional ways of teaching public speaking and oral communication do not address discipline-specific needs; (2) training others to provide good instruction in oral communication skills is difficult; and (3) incorporating oral communication into assignments and instruction in upper-division courses tends to require more of a shift than WAC does (while almost all courses already require some form of written assignment from students, fewer require oral assignments). One notable exception is the widespread use of senior-level capstone courses in technical disciplines, which generally require oral presentation of an industry-related student project.

A third and final approach is to combine speaking and writing initiatives into a speaking-and-writing-across-the-curriculum program. This movement recognizes that both modes are communicative and have a shared theoretical framework in the discipline of rhetoric. The rhetoric program at the University of Iowa is the most prominent example of this type of approach, although its efforts are confined mostly to a combined first-year course. The Iowa program also is representative of the problems that may arise. It employs doctoral students from two programs (English and Communication Studies) who are preparing for different academic job markets. Because it is difficult to manage two approaches from two different academic traditions, a lack of pedagogical consistency may result wherein one tradition or the other is overemphasized depending upon who is coordinating and teaching in the program. In addition, this kind of program may not take full advantage of the differences as well as similarities between speaking and writing performance (Beatty 1998).

At the same time these developments have been occurring, increased interest in visual communication has been demonstrated across the field of rhetoric. Several recent textbooks in first-year composition have incorporated visual communication as a new and an explicit focus.² Instruction in technical and professional writing, which has long included some basic elements of visual communication such as page design and document design, now adds issues such as interface design, usability, and graphic display because of the centrality of electronic media to writing in technical and professional environments. In communication curricula, courses on media criticism, rhetorical criticism, and persuasion theory are likely to include material on framing theory, visual metaphors and arguments, and visual grammars, which students use to examine the use of visual and material symbols. Media production courses include video editing techniques, and public relations courses cover the basics of graphic display.

Those with a primary disciplinary claim to visual communication usually are trained in design, which has an intellectual and institutional history profoundly different from those of oral and written communication. As a field of study, visual design evolved from the printing and typesetting trades, and, as a consequence, education in design emphasizes the apprentice model of studio

practice. Such education also has focused on creation and reproduction, with little attention to distribution and reception (Davis 1999, 34). An emphasis on aesthetics and technique at the expense of audience has made design education essentially nonrhetorical. There is little tradition of research or theorizing and few doctoral programs, with the result that there has been almost no opportunity for cross-fertilization with other communication disciplines. However, the new digital media have begun to transform design education, to provoke an interest in interdisciplinary conceptualizing, and to prompt the development of research and doctoral education.³

As this discussion indicates, the disciplinary history of rhetoric in the twentieth century is marked by what has become an entrenched split between modes of communication in response to job markets, technologies, and institutional politics and preferences. Interestingly, a similar set of factors, including the increasing integration of communication technologies, may require reversing that division as we enter the twenty-first century. In the process, we should seek to regain the comprehensiveness and integrity of rhetoric as classically understood and taught, qualities that have mostly been lost, at least in institutionalized pedagogy. David Fleming (1998) has challenged us to rethink rhetoric as a curriculum for a variety of purposes—as an undergraduate major and as a requisite preparation for citizenship. In the following sections, we take up this challenge as we examine three initiatives for accomplishing integration, focusing upon the promises and potential pitfalls of each.

INTEGRATED COMMUNICATION IN THE FIRST YEAR: AN EXPERIMENT

Added to the voices expressing dissatisfaction with rhetorical education is a report issued by the College of Textiles at our university: “The strength of our graduates, as perceived by industry leaders, is the traditional scientific/technical knowledge of our students, while their communication skills were described as uniformly poor” (College of Textiles 1998). The College of Textiles at North Carolina State, while small, is preeminent in its field; it prepares students for employment in the textiles industry through curricula emphasizing polymer chemistry, industrial processes, and marketing. As a result of the report, the Dean of Textiles approached the Dean of the College of Humanities and Social Sciences about offering a first-year course in speaking and writing that would take the place of the traditional freshman composition course. There were two underlying reasons for this request: (1) skepticism as to real, measurable outcomes of the first-year composition course, and (2) the desire to improve students’ skills in speaking without having to require an additional course (in public speaking) in an already loaded curriculum.

While scholars from both disciplines might find cause to contest these underlying reasons and argue against such a project from the start,⁴ the

requested course raised a number of interesting pedagogical and theoretical considerations worth examining. The more general problem of combining disciplinary and pedagogical traditions certainly was important, but there also was the issue of the audience for the course, first-year textiles majors. By nature, then, the course demanded more than a generalized approach to communication and composition. We had to find a way to teach a discipline-specific oral and written communication course to first-year students who, by definition, have little knowledge of the discipline that they are entering. Thus we identified two key questions:

1. How do we create a course that combines or even blends the teaching of speaking and writing while honoring their differences in pedagogy and performance?
2. What, if any, are the general theories, models, and guidelines that cut across speaking and writing situations? What is the link between those general aspects of learning and the demands of specific situations?

In order to begin answering these questions, two of us (Victoria Gallagher and Michael Carter) interviewed a wide variety of textiles professors, asking three basic questions: (1) What kind of speaking and writing do textiles professionals do on the job? (2) What do you do to prepare your students for those communication demands? (3) What kinds of oral and written communication tasks are required of students in your classes? It was the answer to the last question that was most important to the development of the course, but the first two created a context for the faculty, helping them see the relationship between oral and written communication in the classroom and on the job.

Surprisingly, the interviews indicated that these faculty assigned no classroom communication that was specific to textiles. When they described their students' speaking and writing, it was always in terms of widely recognizable student genres: lecture notes, oral summaries of technical materials, class discussion, essay exams, lab reports, and so on. And even the communication tasks that most closely resembled professional discourse—project proposals, progress reports, project presentations—are common to advanced courses in other disciplines. It became clear that the discipline-specific course requested was not so specific to the discipline after all.

This unexpected generality provided the key to designing a course that could join oral and written communication, generalized tasks and specific content. That key was the concept of the rhetorical situation. As set forth by Bitzer (1968), rhetorical situations are composed of exigence, audience, and constraints, features that not only help us understand how and why rhetoric is called forth and operates but also provide a model for the strategic analysis of situations to discover or invent fitting responses. Rhetorical situation can serve as a guiding principle in both oral and written communication theory, espe-

cially in light of the so-called social turn. Both disciplines have a common understanding of discourse as embedded in the social and thus always as a response to a situation. Rhetorical situation, then, provides a way of uniting speaking and writing instruction, offering a common goal for both as well as some common instructional strategies.

Moreover, rhetorical situation provides a way of negotiating a working relationship between the specific and the general. It established a means for conceiving of our course as consisting of three interacting levels of generality. At the most general level is the abstract concept of rhetorical situation itself. Students could be taught to understand the features of discourse that may be applied to practically any learning situation that involved speaking and writing. This generalized understanding became the unifying theme of the course, reconceptualized as the four-pronged Strategic Communication Model (the terms *motivation*, *audience*, *description*, and *application* replacing the terms *exigence*, *audience*, *constraints*, and *fitting response*). Students are taught to use this model to analyze any academic situation that they confront that requires oral and/or written communication. Their mastery of this broadly applicable model enables them to confront communication tasks with confidence so that they will be able to develop a fitting response. The goal is to make them “think like a communicator.”

On the next lower level of generality are the actual discourse situations that the students learn about and perform as exercises and assignments for the class. These consist of genres mentioned most frequently in our interviews with textiles faculty, the speaking and writing tasks that students would encounter in their academic work: the academic lecture (critical and attentive listening, question asking, note taking); academic summaries (oral and written summaries of technical material); lab reports, essay exams, and group work (setting group climate, conflict); project proposals (oral and written); progress reports (oral); and project presentations (oral and written). The goal on this level is twofold: to teach students strategies for managing specific kinds of discourse that they will encounter in their classes and to teach them strategies that they can bring to other discourse situations.

The third and lowest level of generality is what makes the course specific to textiles. As much as possible, all of the course materials and assignments are based upon textiles-related materials. For example, for the assignments of oral and written summaries of technical materials, the students are asked to choose articles from textiles-related journals. Their major projects treated overviews of textiles organizations, the ethical and political issues that the industry faces, and so on. The objective is for students to begin to enter the discourse of their chosen field. It is this level that sets this course apart from other communication and composition courses. All rhetorical situations are specific; teaching a course to textiles majors generates its own rhetorical situation that requires a suitable response by teachers as well as students. Operating at this level of

specificity makes the course a “textiles course,” giving it much greater relevance for the students.

Thus the course leads to a reconceptualization of what is specific and what is general and, more importantly, the relationship between the two. One level of specificity is defined by the situations represented by the “student genres” (identified or categorized based upon the social action that they serve and, as the term implies, relatively common across student experiences). But an even greater level of specificity is achieved by teaching student genres within the specific major of the students. The two guiding principles for the course are thus:

1. Oral and written communication are founded on the common theoretical assumptions of the rhetorical situation and can therefore be taught together as a rhetoric.
2. Learning to speak and write is more effective for students when the locus of learning is more closely associated with the locus of performance. The concept of the rhetorical situation provides a way to link abstract rhetorical principles to the specific locus of learning.

These guiding principles provided a conceptual basis for the course that in turn enabled formulation of the following goals:

1. Students will learn how to respond effectively to selected speaking and writing situations that are appropriate to textiles majors.
2. Students will learn how to analyze rhetorical situations so that they will be better able to respond successfully to other speaking and writing situations that they will encounter at the university and in their careers.
3. Students will develop the initiative and the means to become more engaged in their academic experience at the university.
4. Students will understand more clearly what communication behaviors are expected of them as textiles students.
5. Students will develop greater confidence in their ability to succeed as textiles majors.

In order to determine the effectiveness of the course and its success in meeting the objectives discussed above, a comprehensive assessment plan was developed for the course. The course initially was taught in the fall of 1996 and the fall of 1997, providing two distinct sets of experimental and comparison groups from which we gathered academic data, attitude surveys, portfolios, and focus group data. In addition, provisions were made to evaluate students at several points during their college careers, providing a chance to measure potential longer-term effects of the course.

One of the most important generalizations that came out of the initial rounds of assessment is that students who took the course demonstrated enhanced confidence and performance in oral communication tasks compared to textiles students who took regular sections of freshman composition (based on attitude surveys, focus groups, and portfolio evaluations). This is not surprising, because the comparison students received no instruction or practice in oral communication. What is worth noting is that this gain for students was achieved *without* reducing their performances in written communication, as shown by grades in their second-semester composition course and by the portfolio evaluations.

Other results from the first two years are the following:

- In both years, portfolio evaluators found student performance in both writing and speaking tasks in no way below the range of performances of other first-year students and in several areas superior: understanding of audience, general organization, lab reports, and oral and written summaries.
- In both years, students in focus groups reported that they had used the oral and written skills in subsequent courses and found them valuable.
- In both years, students reported (in focus groups and via the attitude survey) and portfolio evaluators noted that students learned a significant amount about the field of textiles.
- Faculty feedback from the sophomore year suggested that students in the experimental course were more likely to serve as group leaders in class projects, to receive higher grades on course assignments, and to engage in class discussions than their peers.

While the results of the assessment described above are positive, there are some important concerns regarding a course such as this. First, the course as initially conceived of and implemented is quite resource intensive. Two sections of the course per semester were team taught by two tenured associate professors with the help of a graduate teaching assistant. The total enrollment in 1996 was thirty-four, and in 1997, thirty-nine. Such a teaching arrangement is not possible at most institutions on a large scale or for the long term. So despite the fact that the approach appears promising, the question of how to make it work on a larger and more cost-efficient scale is a crucial one. In the long run, the similarities between writing and speaking should allow for greater institutional efficiency, rather than less, as in our experimental situation.

One possibility for disseminating the course to larger audiences and through more diverse teaching channels is the use of computer technology. As

a part of the experimental course, we developed a Website that operates as a heuristic tool, a workbook/textbook that enables students to work through the strategic communication model to strategically assess communication situations and determine appropriate responses. This kind of Website can serve students both while they are in the course and as a convenient tool for when they encounter other communication situations in ensuing course work. In addition, it can serve as the common core, along with the syllabus, exercises, examples, and other materials, to provide suitable levels of consistency across multiple sections taught by multiple instructors. The current stage of our experiment is based upon this model. Three pairs of instructors taught six sections of the course in the fall semester of 1998. The instructors were paired so that one had expertise in teaching composition and the other in public speaking and oral communication. After a semester of team teaching with the Website as the basic course “text,” instructors taught their own sections in the fall of 1999.

A second concern is how to adequately accommodate the two academic traditions that are joined in this course without reducing one to the other. Our experience has shown that even with some training and a shared text and syllabus, the problem previously identified with the University of Iowa’s program is likely to occur. If an instructor initially is trained in composition, then the course tends to have a heavier emphasis on composition and a “writerly” approach to speeches, meaning that speeches are taught and evaluated in terms more suited to writing. If the instructor is initially trained in speech or oral communication, then the course tends toward a heavier emphasis on oral communication techniques, and writing pedagogy is less central. Thus instructor development and continued discussion with faculty members representing both areas are essential to such a model. An alternative model, where the content is delivered via the Web and/or where large lectures by professors representing the two disciplines and where students attend speaking and writing labs, also is worth exploring.

While the concerns discussed above are important, the student outcomes of our project suggest that rather than abandoning such endeavors, we need to continue to develop creative ways of working through the problems. What *is* apparent as a result of this project is that integrating communication modes can support an expanded role for rhetorical education in the academy, and that such expansion will require pedagogical and curricular models that are grounded in the actual knowledge and practices of disciplines or discourse communities. These same principles support the initiative described in the next section, which seeks to situate broad rhetorical knowledge within the educational goals and programs of specific disciplines. The goal of this initiative is the development of an integrated approach to communication across the curriculum.

INTEGRATED COMMUNICATION ACROSS THE CURRICULUM: A CAMPUS WRITING AND SPEAKING PROGRAM

As we mentioned earlier, programs in writing and oral communication across the curriculum represent a renewed interest in broader rhetorical education in many colleges and universities in North America. However, at our university we had, until very recently, neither writing nor oral communication across the curriculum. A large scientific and technological university with a long history of relatively autonomous colleges without even a general education curriculum, our institution offered little hope for such a campus-wide enterprise.

All that began to change, however, with the establishment of General Education Requirements in the early 1990s. The written and oral communication portion of those requirements consisted of two semesters of first-year composition and an advanced course in written or oral communication or foreign languages. In addition, after much discussion at many levels, an additional noncredit requirement was included, which asks each curriculum to incorporate both writing and speaking in upper-division courses. The distinctive features of the program that is evolving are that speaking is to be an equal partner with writing in the upper-division courses; that each college be made responsible for developing and evaluating writing and speaking in its programs; and that evaluation of this element of the writing and speaking requirement be based on outcomes rather than on requirements.

These recommendations became the foundation for our Campus Writing and Speaking Program. It was clear from the beginning that if written and oral communication were indeed to be equal partners in the university's approach to communication, then a shared theoretical and pedagogical basis on which that partnership could be formed needed to be identified. To a large degree, the committee's decision to place responsibility for oral and written communication with faculty in the disciplines dictated that a unifying focus had to be found in communication practices in the disciplines.

While both writing and oral communication across the curriculum (WAC and CAC, respectively) have produced bodies of scholarship, WAC scholarship has focused on teaching writing within specific disciplines and on identifying and teaching genres of disciplinary discourse. A similar line of scholarship has begun to take hold in recent years in CAC scholarship as well, creating a conceptual parallel that can support both writing and speaking in the disciplines of a large research university. We were able to develop from this earlier work an understanding of the functions that written communication and oral communication serve in upper-division courses: (1) enabling students to learn the subject matter (creating a more participatory environment in the classroom by making students more active learners); (2) enabling students to learn the ways of thinking that define the discipline (using speak-

ing and writing situations to guide students through the forms of knowing that characterize an academic discipline); and (3) enabling students to learn the forms of discourse that are appropriate to professionals in a field. From this perspective, writing and speaking can be powerful modes of learning across the disciplines.

The key to uniting oral and written communication on our campus was to fully institutionalize that relationship between the two modes in the program. The Campus Writing and Speaking Program consists of three tenure-line faculty from the Departments of English and Communication, all of whom have a part-time appointment in the program. These faculty directors work with an advisory board made up of representatives of all the undergraduate colleges and of others with an administrative concern related to oral and written communication on campus. The program takes a two-pronged approach to its work, and both prongs incorporate the institutionalized connection between writing and speaking. One effort focuses on the institutional mandate from the General Education Requirements to guide individual departments in creating outcomes statements for oral and written communication and assessment plans for evaluating departmental attainment of those outcomes. The faculty directors work with departments to help them identify their own outcomes and the means of assessment that they will use to evaluate how well their programs meet the outcomes. So central are writing and speaking to the curriculum that faculty in the departments find, much to their surprise, that the outcomes articulated for writing and speaking usually can be used for the broader purposes of establishing full curricular outcomes for accreditation bodies and university planning procedures. This result helps reinforce the notion that writing and speaking are not additional subjects but rather are truly integral to the teaching and evaluation of students. The other effort focuses on faculty development and curricular development to enable both individual teachers and curricula to enhance their work in writing and speaking. This work involves strategies—workshops, individual faculty consultations, theory-into-practice lunch discussions, graduate assistants, and faculty development grants—that have become typical for WAC and CAC programs but in this case are adapted to directly address the theoretical and practical issues of a combined approach. Another difference is that many of these developmental activities revolve around the writing and speaking outcomes that each department has established.⁵

Since this program is so new, no assessment data are available yet, and it is clear that working in the grounded, curriculum-specific way that the program specifies will mean that progress will be slow and variable. Curricula will proceed at different rates to fully implement the program, and university-wide data may never be available, but each program and department should be able to determine its own progress in appropriate ways.

VISUAL AND VERBAL COMMUNICATION IN THE SCIENCE LAB: A NATIONAL SCIENCE FOUNDATION-FUNDED PROJECT

Rhetorical situations in classroom settings typically are designed as learning opportunities. Students are asked to respond to often-repeated academic situations as a way for teachers to guide their learning, to shape their thinking in ways that are defined by the discipline. Sometimes, however, the potential for such learning is lost, because the rhetorical situation is no longer seen as an opportunity for learning. In addition, the rhetorical dimensions of the situation may be poorly understood by the faculty member or the discipline that relies on it; this problem is particularly common when visual communication is involved, since its rhetoric is not well understood.

One such case is the laboratory report. Students tend to see this genre as nothing more than busy work, an essentially meaningless enterprise whose only function is to prove that they have done the lab. Unfortunately, the educational institution itself often encourages this view, particularly in large universities. Many labs, especially introductory labs for nonmajors, are cookbook activities in which students merely fill in the blanks of workbooks. And even in many higher-level labs, the same procedures are repeated year after year, exercises that have completely lost their claim to experiment and therefore have become simply a process of finding the right answer. The impression that labs and lab reports are not important is supported by the fact that laboratory sections typically are given over to teaching assistants, and the professors who teach the associated lecture sections usually do not see their students' lab reports and often do not even mention the labs in their lectures.

What is lost in this instance is a strategic opportunity for learning about science and what it means to be a scientist. The accepted lab report format leads students through a way of thinking that reflects the scientific method: establishing a context for an experiment, describing the experiment, reporting on its results, and interpreting the results. It is not by accident, of course, that the key features of the lab report—introduction, methods, results, and discussion—are a reflection of the standard scientific article. The lab report provides a way for students to frame the lab procedure according to the logic of science and also to reflect on both the procedure and the way of thinking about the procedure. Obviously this guided thinking is important for science majors, but it also is important for other students as they take on civic responsibilities that require them to understand how science works.

To try to improve the learning opportunities afforded by lab reports, an interdisciplinary team of faculty at our university is in the early stages of a National Science Foundation-funded project we are calling "LabWrite."⁶ On our team is a colleague from graphic communication who is an expert in scientific visualization. The project is designed to explore the ways in which rhetoric embraces the visual dimensions of communication. Our initial

observations in labs have verified our hunch that the processes by which students frame, represent, and interpret data depend very much on the visual. The data themselves are framed by the visual before they are even collected, because students typically are given graphs or tables for recording data. The results consist primarily of visuals (sometimes only visuals), and interpretations of the data are based largely on those visual representations.

Because the visual is so important in both the process and product of writing lab reports, one of our challenges is to help students understand the rhetorical nature of the visual. To meet this challenge, we are developing tutorials that guide students through the process of creating graphs and other visuals with attention not only to the accuracy of the data but also to the way readers interpret visuals. Another challenge is to help students understand the relationship between the visual and the verbal. Some students we have observed would prefer to rely solely on the visual, believing that all anyone needs to understand the lab is provided in that format. And certainly in most cases, the verbal does appear to be secondary to the visual. But the situation may be more complicated than that. In the rhetoric of the lab report (and the scientific article), the visual and the verbal modes supplement and extend each other. Neither can stand alone. For example, in the results section of the lab report, students begin with their visual representations of the data, but to make sense of those data they must be able to summarize the most important findings of those representations discursively. And those findings make sense only in terms of the visuals to which the findings refer for demonstration and elaboration. Our goal, then, is to enable students to negotiate more effectively between the visual and the verbal.

For the LabWrite project, we are creating a variety of teaching materials designed to enhance the learning opportunities often ignored in this rhetorical situation and specifically to integrate visual and verbal communication instruction. For the first stage of this project, these materials include: (1) an introduction to lab reports whose goal is to increase students' understanding of and motivation for writing reports; (2) an instructional guide for teaching assistants who run lab sections; (3) a heuristic procedure to guide students in constructing reports, leading them from recording data in lab notebooks to the finished report; and (4) evaluation materials so that teaching assistants can effectively and efficiently grade the reports. The plan is to place all of these materials on interactive websites that can be linked to the laboratory's own website.

INTEGRATED COMMUNICATION AT THE GRADUATE LEVEL: A RATIONALE FOR DOCTORAL EDUCATION

The three initiatives described above are, we believe, important ones, both for our institution specifically and for the discipline of rhetoric more generally; we

believe they offer potential for rhetorical education that is more effective for being both less fragmented and more diverse than in traditional programs. However, these initiatives still represent demonstration projects, showing possible directions for curriculum and program development, and not definitive models for emulation; scaling them up and conducting full assessments will take additional time, and many problems remain to be solved.

One long-range problem is the need for faculty who are able to work in multiple communication modes or to collaborate productively with others who specialize in a different communication mode, whether oral, written, or visual. The new communication technologies are rapidly requiring new conceptualizations of all three modes of communication, and this reconceptualization will be richer and more useful if it builds on cooperative efforts. However, at present, research and graduate education proceeds quite separately in doctoral programs in departments of English (including programs in rhetoric and composition and professional or technical communication), Communication Studies, and Visual Design. Below we review briefly the nature of relevant graduate education in these three fields and then propose a rationale for more integrated or cooperative doctoral preparation. We believe that such preparation is essential, and that dramatic changes in doctoral education will be necessary in the twenty-first century in order to provide the research and theory base for understanding the new communication media and for developing curricula that will prepare undergraduate students for the rapidly evolving communication needs and practices of the twenty-first century.

In departments of English, doctoral programs in rhetoric prepare students for academic positions in composition, WAC, professional and technical communication, computer-based writing instruction, and writing center administration. As a recent survey of the existing sixty-five such programs shows, most include courses in the history of rhetoric, research methods (covering experimental and observational methods), and contemporary composition theory (Brown, Jackson, and Enos 2000). Some programs offer elective courses in computer applications, but no program currently makes the nature of communication modes or media central to its curriculum. Students who take available technology oriented courses usually are preparing to specialize in technical communication or computer-based writing instruction, even though technology expertise is needed in other areas; for example, WAC programs increasingly incorporate computer technology (Reiss, Selfe, and Young 1998). In addition, students who specialize in rhetorical history or theory, feminist rhetoric, assessment, pedagogy, developmental composition, literacy studies, and the like rarely incorporate technology into their program of study. Furthermore, although some programs do offer or require courses in linguistics, a discipline built on the analysis of oral language, few programs offer any exposure at all to visual communication or oral communication, as distinct modes with particular relationships to media affordances.

Although rhetorical studies in English and doctoral studies in Departments of Communication share the study of rhetorical theory and history, they share little else. In departments of Communication, doctoral programs in rhetoric prepare students for academic positions in rhetorical theory and criticism, political and public communication, argumentation, CAC, basic course and public speaking instruction, and critical/cultural studies. Most of these programs include instruction in rhetorical theory, communication research methods (both quantitative and qualitative, including rhetorical criticism), political communication (often including social movement/cultural studies), and persuasion theory or argumentation. Some programs offer elective courses in visual and material rhetorics, including mediated communication. These electives usually are found in communication departments with strong programs in interpersonal, organizational, and/or mass-mediated communication, as well as in rhetoric. There are several nationally prominent programs with computer-mediated communication as the centerpiece of the graduate program. For example, the University of Southern California's Annenberg School of Communication is devoted to research and teaching related to the development, use, and impact of communication technologies. However, as Robert Entman (1997) recently noted, even in institutions with strong mass communication and journalism programs, graduate curricula tend still to prepare students in traditional ways, leading to inconsistencies between preparation and professional practice.

Finally, there is a very different educational tradition in visual communication, one that has only recently extended to the doctoral level. Most schools of design consider the master's degree the terminal degree, and there are few persons in the design field with doctoral degrees of any kind (Strickler 1999, 311). Some have questioned whether there can be Ph.D.s in design at all, since there is no traditional body of knowledge and no established tradition of research (Dilnot 1999). Currently there are only a handful of doctoral programs in visual design, including a new one at our own institution, with a program begun in 1999 (Davis 1999). Although such programs are beginning the work of creating a culture and tradition of research, borrowing from more established fields such as psychology, computer science, and linguistics, Richard Buchanan (1999) has argued that design is different from traditional academic fields, a "transdiscipline" that focuses not on subject matters but on problems and on production as a mode of inquiry. As such, we should note that it has much in common with the Aristotelian conception of rhetoric. Researchers in English and communication departments recently have shown great interest in the role of visual communication within their own research domains, as illustrated by the increasing number of conferences, special journal issues, and courses in this area.⁷

Reconceptualized doctoral programs are necessary, for several reasons. Most obviously, programs in the traditionally separate communication disci-

plines are not able to address comprehensively the ongoing transformations of rhetorical practice and, as a consequence, they will not be able to develop research programs and theoretical insights that can elucidate the new multimodal complexities of practice. Attempting to address problems of writing, interpersonal interaction, and visualization separately can only dissipate the conceptual power that rhetoric has acquired in the past thirty years and possibly return rhetoric to its modernist decline. Furthermore, if we continue to work separately in the rooms of a divided house, we will miss the opportunity to address the issues that information technology poses, a rhetorical opportunity if there ever was one. Janet Murray (1999) has recently characterized the curricular needs for the new profession that she calls “interactive design,” the intersection of digital content and new forms of delivery and use, in terms that highlight the need for the integration that we are urging here. She emphasizes that to understand and use the computer as a “representational medium,” designers should be able to draw on history, myth, ritual, narrative, patterns of repetition, and spatial and temporal orientations—rhetorical resources, all—as well as on technical considerations such as database design and user-interface development. Integrating the disciplines of written, oral, and visual communication, each with its own resources for theory and research, could produce important academic programs positioned to address the communication practices and problems of a digital age. Without a viable and integrated rhetorical enterprise, engaged in the issues posed by what most consider a “communications revolution,” the communicative dimensions of information technology will be left to the software developers and systems engineers. That seems to us to be the strongest rationale for working together to build a rhetorical enterprise that can design the curricula, educate the next generation of designers, and produce the new faculty that will be needed in the coming decades.

INTEGRATED COMMUNICATION: LESSONS LEARNED

Disciplinary loyalties and institutional structures will be issues central to any effort to unify the divided house of rhetoric. Initiatives that are cooperative ventures between Departments of English, Communication, and Design, and that serve the needs of each in some way while still privileging their unique areas of expertise, are more likely to be successful than efforts to elide their differences. Often cooperative ventures may succeed best when they begin at a very basic level—in the classroom. It is here where practical issues of performance remain insistent and cannot be theorized away; it also is in the classroom where the technology and media experiences of a younger generation must be engaged and understood by a generation of faculty with different experiences.

The real differences in performance of the various modes of communication must be accounted for in deliberate and specific ways. Writing, oral interaction, and visual representation all require quite different practical skills, and while some theoretical concepts apply to all modes in similar ways, others apply quite differently. Although our understanding of each of these modes may be “excellently well labored,” our understanding of their relationships and differences is “deficient,” in the words used by Francis Bacon (1952) to describe the state of learning 400 years ago. Like him, we would hold that the advancement of learning at this time requires a concerted and coordinated inquiry in these areas of deficiency.

The need for integration has been created by several interdependent forces: by technology, by the changing undergraduate curriculum, by intellectual movements such as the “rhetorical turn” in the humanities and social sciences, and by economic constraints that press for institutional efficiencies in higher education. We believe that cooperation and integration, if not institutional unification, can provide the unified theories and approaches necessary in dramatically changed and changing communication contexts. Practically speaking, these efforts should proceed both from the ground up and from the top down. That is, we will need experiments and collaborations at many institutions, not only in the classroom and in cooperative research agendas of faculty in all three disciplines but also in administrative and institutional arrangements that support and encourage continued interaction among three usually separate academic units. Unifying the divided house of rhetoric is not a short-term prospect, but we believe that it is an essential undertaking.

NOTES

1. See, for example, Joseph Petraglia’s (1995c) collection *Reconceiving Writing, Rethinking Writing Instruction*, which offers persuasive evidence questioning the possibility of teaching general writing skills, a key assumption that underlies the rationale for the first-year requirement.

2. For example, Hilligoss (1999); McQuade and McQuade (2000).

3. Interest in doctoral education is demonstrated by two recent conferences on this topic, one held at Ohio State University in 1998 (see Buchanan et al. 1999) and the other in La Clusaz, France, in the summer of 2000 (<http://www.mailbase.ac.uk/lists/phd-design/files/france.htm>).

4. A panel at the 1999 National Communication Association is a case in point: “Speaking across the Curriculum: Foe or Friend”; participants were Robert Weiss, DePauw University; John Daly, University of Texas at Austin; Roy Schwartzman, University of South Carolina; John Morell, Mary Washington College; and A. A. Bowers Jr., University of Phoenix.

5. The information and descriptions above are based on materials produced by Chris Anson and Deanna Dannels, director and assistant director, respectively, of the North Carolina State Campus Writing and Speaking Program. Mike Carter is the associate director, who works with departments on outcomes statements.

6. NSF Project 9950405, Principal Investigator Michael Carter, with Eric Wiebe (Graphic Communication, North Carolina State University) and Carolyn Miller.

7. For example, *Visual Rhetoric*, September 2001, at Indiana University; Fifth International Conference on Information Visualization, London, May 2001; *Visual Communication*, special issue of the *Journal of Computer-Mediated Communication*, June 2000; *Visualizing Information*, special issue of *Technical Communication*, November 1998; *Visual Argument*, two special issues of *Argumentation and Advocacy*, summer and fall 1996.