Writing vs. Content, Skills vs. Rhetoric: More and Less False Dichotomies

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Our approach to engineering writing programs begins with the writing-content dichotomy—the assumption that student writing skills can be separated from the substance about which they are writing. This distinction is dear to faculty in engineering departments, because the substance of engineering reports is commonly collected in graphs and tables. Under this assumption, good writing does no harm to content, while bad writing merely distorts things that are clear in the writer's head. Too often, writing professionals respond to this view of writing by insisting that writing and content are inextricably linked—that there is no meaningful way to separate content from its expression. In practice, however, both a writing-content dichotomy and a conflation of the two prove to be false, for both in technical courses and in writing courses, student documents are evaluated largely for content. Instructors in both camps overlook the problems that arise as students grope for text features that will help them meet their goals in writing, and our engineering students are too often caught in a crossfire between the two camps.

At Georgia Tech, we assume that our students are novice writers who lack the discursive skills which are the tools of the rhetoric they need to learn. Consequently, we take a modified approach to the writing-content problem. We partition writing instruction into scribal and rhetorical skills—a dichotomy to be sure, but one which is less false because it allows us to address directly the problems of text management that often threaten to disrupt the rhetorical efforts of novice writers.

In developing such an approach to WAC/WID, we are guided by two key principles:

1) First, in order for students to learn how writing functions rhetorically, they must receive instruction within their discipline, and they must

be evaluated by someone with knowledge of the discipline, its conventions and its standards.

2) But second, much of writing is not rhetorical; it is composed of scribal skills that transcend technical content (i.e., skills that Toulmin would call field independent) and that can be taught apart from any particular content domain.

Our notion of scribal skills is based on a precept that is not always well received within the community of writing professionals: that there is a large body of mechanical information about writing that does not require much theorization. This information can and should be taught directly, in courses that drill students in grammar/mechanics, truisms relating to paragraph construction and structures of larger texts, and in sentence combination. We would like such skills to be the primary business of introductory writing courses.

For undergraduate students, we want to teach rhetorical skills in professional content courses, such as engineering lab and design, where communication is naturally important. In these courses our students learn how to tell the stories that are important to their professions, they learn how to articulate points for the different audiences they may face, and they learn what kinds of evidence best support what kinds of points. In short, we want to teach undergraduate students how to fashion arguments for particular audiences using particular sets of evidence. For graduate students, we want to extend the undergraduate lessons, teaching rhetorical skills as they pertain to development of research oriented careers.

Instruction for undergraduate engineers

At Georgia Tech's Woodruff School of Mechanical Engineering, technical communication can be thought of as a single communication course spread across a sequence of four required laboratory and design courses. The communication instruction is staged across this sequence in a way that coordinates with the staging of the engineering instruction. In introductory labs and design courses, students learn the norms of report format, they learn the norms for making and using figures and tables, and they practice physical descriptions of objects and of procedures. In subsequent courses, projects grow more challenging and the students are given more independence; in their reports on such projects, students must learn to motivate the investigations, to formulate the technical issues for their projects and to justify their methods.

Because our communications 'class' is spread over a sequence of courses, we face problems of coordination with an ad-hoc writing faculty of four instructors and up to twenty teaching assistants who variously assign projects, explain reporting tasks and give feedback on project docu-

ments. We address this coordination problem by developing course-specific guides which outline for both students and teaching assistants the format issues and the audience assumptions to be emphasized at each stage in the student's course sequence. These course-specific guides are themselves coordinated with a department Style and Format Guide that outlines communications goals for each stage of the undergraduate sequence. The course specific guides outline reasonable principles for preparing text features to meet readers' expectations for problem statements, for discussions of figures and tables and the like.[1]

Our classroom approach is best illustrated in the first undergraduate design course. In this 10-week course, student teams build a number of small projects and one larger project. Each week, they deliver an oral presentation and a written report describing their progress on the week's project. Along with the technical instructor, a communication instructor attends each presentation, gives written feedback on written and oral reports, and provides instructions concerning subsequent reports. Our feedback is delivered as an element of the overall technical commentary on student reports, and it is designed to show students how to address substantive concerns raised by the technical instructor. Communications feedback and technical feedback consistently reinforce each other; consequently, we have no occasion to assign separate grades for project work and for communication.

Instruction for engineering graduate students

We assume that even graduate students are novice, not expert in professional communication. The graduate student in engineering must take the role of a research colleague in training, which is a different kind of role, and one with higher expectations than most students encounter as undergraduates. These new expectations for professional communication are seldom articulated explicitly, yet engineering professors commonly expect new graduate students to be experts in the rhetoric of the research-oriented project. The predictable result is an awkward period of transition in which the students learn the new writing expectations by trial and error, a process that is painful for all students and is particularly challenging to international students.

Our graduate program begins with explicit discussion of the way students' roles change as they advance through their graduate programs. From this starting point, we have developed a set of courses and seminars focused on students' professional development in their fields. Specifically, in teaching professional rhetoric to graduate students, we focus on the relatively small set of narratives that professionals are called upon to use repeatedly. We group these stories as follows:

·   Writing about future goals and past accomplishments, including interviews, graduate fellowship proposals and other funding proposals;
·   Writing about research problems and results, including thesis proposals, conference presentations, job talks and research papers;
·   Writing to explain professional issues to laypeople, including public speeches, interviews, and some types of funding proposals.

We teach these stories in three different flavors of classes and workshops, each addressing the particular expectations professional audiences may have for a particular kind of story, the questions of how an audience might respond to a student's document or presentation and on the scribal skills the student might call on to meet those expectations or to respond to suggestions. In each course or workshop, we work in conjunction with faculty members in the discipline who provide discipline-specific information to the students.

Fellowship proposals

New graduate students are encouraged to apply for research fellowships, a process that asks them to write their first professional funding proposal and to solicit support letters from faculty members they may not know well. For these students, our workshops outline the norms of the funding proposal genre, but they primarily emphasize the proposal's two audiences—the unseen fellowship review panelists and the local panel of faculty members whose reference letters will help the students begin their careers.

Seminars for Graduate Teaching Assistants

Each year we offer one fifteen-hour writing seminar as part of a career development program for Georgia Tech's Graduate Teaching Assistants. In these seminars we ask students to develop brief dissertation proposals, which are distributed for review by all participants in the seminar. Because our students come from many departments, review discussions highlight the reactions of academic audiences but not discipline-specific audiences. Text strategies are discussed only after audience responses have been aired.

Advanced professional writing courses

Within specific departments we offer graduate level courses in professional communication, focusing again on the dissertation proposal and presentation as the model genres. These courses have much in common with the GTA course described above, save that relative homogeneity of the discipline-specific audience allows us to delve more deeply into

the nature of argument and the standards for evidence within a given discipline.

Recap

In both graduate and undergraduate courses, we seek to avoid the fundamentalist zeal that accompanies both the dichotomizing and the conflation of writing and content. By distinguishing between scribal and rhetorical skills, we may run afoul of some colleagues' cherished beliefs, but we ultimately demystify writing for students caught in the dichotomy/ conflation crossfire. At the same time, our approach also creates a division of labor among writing instructors that is workable, that avoids redundancy and that leverages the technical context within which engineering instruction takes place.

Notes

[1] These principles are set out in *Style: Toward Clarity and Grace*, by Joseph Williams, The University of Chicago Press, 1990; they are nicely condensed in *The Craft of Research*, by Wayne Booth, Gregory Colomb and Joseph Williams, The University of Chicago Press, 1995.

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