

An Alternative Approach to Writing Across the Curriculum: The Writing Assistance Program at North Carolina State University's School of Engineering

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A few months ago our writing program received a copy of a questionnaire from a doctoral student seeking information about writing laboratories in universities across the country. One of the items on the questionnaire asks respondents to "describe [their] location in terms of proximity to the English Department office." Another asks, "How would you describe your center's status in terms of your relationship with the English Department?" For those of us in the North Carolina State University School of Engineering's Writing Assistance Program, these are irrelevant questions. Our office is across the hall from the Dean of the School of Engineering; we *have* no official relationship with the English Department.

Obviously, we can't blame the writer of the questionnaire. Most university writing centers are run by, or are somehow offshoots of, the English Department. Indeed, matters pertaining to writing, even writing across the curriculum, remain for the most part firmly in the hands of English Departments.¹ But if English Departments control most campus writing centers, to what extent can they assert that these centers truly serve the writing-across-the-curriculum needs of the campus? Of course, some writing centers, like ours, are *not* under the control of English Departments, and others maintain a close and fruitful relationship with other departments in need of their services. But we suspect that in many cases writing centers, however well intentioned their staffs are, simply have no idea of the writing needs of engineering students as opposed to forestry students, etc.

Discussions *ad nauseum* about the necessity for students to achieve a universally definable kind of literacy in written communication ignore completely the fact that standards for written communication vary widely in different disciplines. In fact, by ignoring the contexts in which communication takes place in these different disciplines, teachers and

tutors hamper rather than enhance their students' attempts to communicate effectively. It isn't enough to know about grammar and paragraphs and 500 word themes. Students need to know *who* they're writing for, *why* they're writing, and what *form* their writing should take.

In short, writing centers should be more than instruments of remediation.² We agree with Knoblauch and Brannon's call for a writing-across-the-curriculum concept making "writing central to courses other than English, one that accommodates the expertise of the historian, the biologist, and the engineer...that finds justification for writing in the potential for new learning implicit in the act of writing itself" (466). If the concept of writing across the curriculum is to have any meaning, writing centers must provide specific help for students in a variety of disciplines. Professors in these disciplines can help by providing appropriate assignments in their own classes, but the impetus for this kind of activity must come from those most committed to writing as a profession.

An Alternative to the Traditional Writing Center

We'd like to offer an alternative to the traditional centralized campus writing center. We model it on our own decentralized writing program here at NCSU. Our model shares some features of other programs, but goes a bit further than most of those reported.³ In principle, we assert that *every* course in every discipline presents an occasion to instruct students in rhetoric and to evaluate students' writing (and speaking) skills. At NCSU the relatively small Department of Forestry has fully implemented this principle; the Writing Assistance Program in engineering, with more ground to cover, applies the principle to varying degrees in eight departments. In effect, our approach recognizes Emig's contention that "writing serves learning uniquely because writing possesses a cluster of attributes that correspond to certain powerful learning strategies" (122).

Our program takes the single-subject approach described by Kinneavy (14-15): It deals with students consistently and comprehensively as they advance through the various courses in their major fields of study, and it allows students to write as experts addressing other experts in their fields (the chief advantages of what Kinneavy calls "vertical" programs [14]). In addition, however, it overcomes the potential limitations of such programs by bringing professional writing teachers into subject-area classrooms to work in cooperation with professionals in technical disciplines and to build on other English Department courses aimed at getting students to write for general audiences (these courses are typical in what Kinneavy calls "horizontal" programs [13-14]). Furthermore, the model is highly adaptable, having been initiated in the Department of Forestry at North Carolina State and then modified to meet the larger and more diverse needs in the School of Engineering.

We understand that most already established programs will not try the method we suggest. But for those at the precipice, getting ready to take the plunge into a writing center, we suggest that our plan is worth considering. We'd also like to offer a few suggestions to directors of already established writing centers about how to increase their effectiveness by working with other departments on campus to extend the mission of these centers as widely and as efficiently as possible.

First, let us describe what we do in engineering at NCSU. The center occupies one office, where we maintain office hours, prepare guest lectures, and administer the program. But in general the action that occurs in the Writing Assistance Program develops outside the office—in engineering faculty offices, in engineering classrooms, and where students sit down to compose the engineering reports they have been asked to do. Working in eight engineering departments, we deal with a wide range of subjects and respond to varied reporting problems. We serve as consultants to teachers of technical courses, and so extend writing instruction into the technical class as part of engineering professors' syllabi. In many cases, we help design writing assignments and define acceptable standards of achievement.

During office hours, we discuss assignments with students who drop in for advice, a vote of confidence, or effective criticism. The program thus meets engineering students in the midst of their technical learning. It provides a support system, helping those students having difficulty reaching the defined standards of achievement, and it provides expertise on matters ranging from basic memo formats to senior projects including proposals, progress reports, and final reports.

In large part the program has defined itself through work with faculty and students. Few semesters are the same, but one consistent trait has been increasing contact throughout the School of Engineering. We do not have the temerity to suggest that our way is best, or that other programs are ineffective. We simply want to indicate that our program has a number of advantages: cost, efficiency, and effectiveness.

Cost

The program requires minimal financial and physical resources because it focuses on services outside the center. Individual engineering departments provide classroom space, overhead projectors, and most handouts. An office large enough for our three-person staff and typical office furnishings suffices for the rest of our activities.

The Dean of Academic Affairs for the School of Engineering provides salary support. Originally appointed from the English Department, each of us now has a different employment status, determined by the individual's choice. One Director has an appointment in the Department of Forestry, with half his salary paid by the School of Engineering. Another has a half-time appointment in the School of Engineering. The third has a position in the English Department, with a third of his time purchased by

Engineering. The administrative details of this arrangement require some negotiation between divisions of the university, but are easily manageable. The cumulative time commitment to the program equals one and a third faculty positions, which has so far proven adequate to handle the work defined by the program's objectives.

Efficiency

Our program has many advantages. We operate directly from a conveniently located office within the engineering complex, and do not need to clear our activities with a central authority. Since we are well acquainted with many engineering faculty members, we have ready access to any technological expertise we need. As a result, students eagerly receive our assistance because we approach their problems from the perspective of familiar engineering curricula, giving our instruction more specific direction.

Additionally, we present course-specific demonstrations of technical communication in the engineering classes to which we are invited. In turn, engineering faculty respond by including more written work in their assignments. They are also encouraged to model these assignments after the types of communication students will use later as professionals.

We extend our role beyond the School of Engineering by integrating our efforts with those of other departments on campus. We regularly refer students to English Department courses such as technical communication, and we also counsel students about offerings in the Departments of Foreign Language and Speech Communication. In this way we insure that we don't usurp the functions of those other departments, while supplementing their offerings with specific, course-related help of immediate use to engineering students. But often we interest these students in writing and speaking enough that they take additional communication courses.

Our program has received positive student response because of our unique role: we are tutors, consultants, and teachers, but, very importantly, we don't give grades, so we never assume an adversarial role. This situation has increased students' confidence in our program and has greatly contributed to its effectiveness.

Effectiveness

The rapid growth of our program is demonstrated by a summary of class and office contacts with students for the six semesters succeeding our initial, organizational semester (see Table 1).

TABLE 1. Six-Semester Overview of Writing Assistance Program Activities

	F80	S81	F81	S82	F82	S83	F83	S84	F84
Courses involved	4	11	8	14	7	13	10	7	8
Class presentations	6	8	8	13	6	19	15	14	14
Students met in courses	310	531	567	1151	457	580	425	316	430
Students met in office	44	78	116	95	88	106	65	41	60
Visits to office	95	191	147	170	223	181	131	84	112

The cyclical fluctuations in the numbers reflect differences in course offerings between semesters. Despite these fluctuations, however, we have experienced a general increase in the number of courses involved and the total class presentations made. The totals for students met in these courses vary according to the size of the classes. When we speak to large introductory engineering sections, our student contact increases; conversely, when we speak primarily to senior design sections, our student contact decreases, but the quality of our contact is enhanced by the readiness of advanced students to listen to our advice.

Our tutorial services have also increased over the semesters, with our time being divided among international graduate students working on theses and dissertations, undergraduate students working on course-related reports, and graduating seniors working on resumes and letters of application. At first, most of our business came from teacher referrals, but now we see mostly students who have heard about the Writing Assistance Program from other students. This shift from referred to voluntary attendance has been most gratifying. We continue to seek more ways to provide our services to students, but we are pleased with the amount of contact we have achieved so far.

Although we provide class presentations and individual attention for hundreds of students every semester, we are not a labor-intensive enterprise. Student enrollment in the NCSU School of Engineering (undergraduate and graduate) averages about 6,000. We reach a relatively high percentage of the available students with only one and a third faculty positions. Furthermore, we accomplish our ends without having to rely on graduate-student help; instead, our students spend their time with the salaried consultants who run the program.

The increasing number of professors who call us back to make additional presentations in succeeding semesters encourages us to think that we are providing a valuable service. And as we have realized from the beginning, the more class presentations we make, and the more professors who make their support of our program known to their students, the more students will come to see us for individual help.

A sign of the way our role has been received can be seen in the response of the NCSU School of Engineering's Advisory Council, at whose request the program started. The Advisory Council, comprised of representatives from North Carolina companies hiring N.C. State engineering graduates, meets every semester to consider issues facing the school. When their Spring 1983 meeting focused particularly on communications issues, members of the Council applauded the WPA's development, noting that it represented a major step in addressing a crucial problem engineers must overcome to be successful. In their closing comments to the administration and faculty, every member of the Council advocated continuing the progress in communication instruction and seeking ways to expand the program. This impetus has propelled the School's Curriculum Committee and the WAP to develop an overall strategy for curriculum-wide instruction in technical writing and speaking. The emphasis will be on linking heretofore random efforts prompted by individual faculty requests and creating a comprehensive instructional program in all engineering departments.

Suggestions

Obviously, as writing centers proliferate and writing across the curriculum spreads, administrative and programmatic approaches vary widely. At North Carolina State, circumstances have fostered programs in the Schools of Engineering and Forest Resources independent of the English Department. However, each program has evolved from the same objective: to increase attention to writing when students most value the instruction—when they need to communicate their acquired technical knowledge. Our experience in the WAP since 1980 supports several recommendations applicable to either writing centers or writing-across-the-curriculum programs. Our insights may benefit both newly organized and already established programs designed to address technical-student and faculty needs in any discipline.

1. Writing teachers working in such programs ought to have an affinity for technical subjects, even going so far as to develop areas of expertise. Credibility remains a fundamental issue for scientists and engineers, and the writing teacher who knows little of the technical material students have to report will quickly lose credibility with both students and faculty. The writing teacher's assumed expertise with language has to be coupled with a knowledge of the circumstances in which the language is being used. Because technical writing is value-laden, it imposes style and vocabulary constraints that will differ appreciably from instance to instance. Guiding students and faculty members in choosing appropriate forms and styles of address requires some insight into the problems confronted, or if nothing else, knowledge of what questions need to be asked by technical authors. Some objective distance from the sub-

ject matter may be healthy for editorial reasons, but total ignorance breeds rejection of whatever help the writing teacher might be able to offer.

2. Gaining such insight and developing knowledge of how to be helpful takes initiative. In a program like ours, the writing teacher who sits waiting in the writing lab for students to come through the door, or for faculty members to come calling, will likely spend much time alone. Knocking on office doors and sitting in on technical classes, thereby making contact with the writing program's possible clients, is necessary. We initiated our program with a committee of engineering department representatives, each of whom then identified faculty members in whose classes we might make presentations. We also talked to administrators who suggested whom to contact and what approaches to use in stirring interest in the program. We learned the administrative ropes and the important places where our service would have immediate impact. By making these contacts, we made it possible to observe teaching methods, evaluate students' reports, and make suggestions to improve students' performance and the types of assignments being made. We habitually got out of the office and into the rest of the school where the teaching and learning were happening; this, in turn, prompted students and faculty members to seek us out. More importantly, though, we learned a great deal about how engineering education operates and how our services could best be applied to improve its operation.

3. Developing the program takes time, however, as well as patience and resolve. We intentionally started small, aiming for manageable goals and building on small successes. No one attempting such a program should do otherwise, for acceptance is unlikely to be immediate. Some professors are understandably defensive about methods they use and jealous of class time they already feel is inadequate to cover technical material. They frequently resist suggestions to sacrifice time for presentations on writing when they have not witnessed the benefits. Only testimony from professors who have seen positive results in their own classes can break down this resistance. Gradually, though, if the program's reputation spreads and the writing teachers establish a credible presence, momentum builds, other faculty members become involved, and the program's scope begins to encompass the entire curriculum.

4. Writing teachers and directors working in programs aimed at technical audiences must be diplomats to accomplish their objectives. The attitude they assume should derive from the question "how can we help?" and must alter preconceived notions about what ought to transpire in the technical classroom. Deference to professors' tastes and requirements for student writing may be difficult to swallow at times, but confrontations over matters of style will do little to solidify agreement over matters of substance.

Presuming to change teaching methods and perspectives developed over generations is bound to cause some disagreements. But approached with tact and credible support for a different point of view, most professors see the value of compromise to serve their students' interests better. In short, this means shedding the self-righteous demeanor common to writing teachers when they consider the literacy shortfall they perceive outside their habitual haunt, the English Department.

Conclusion

Applying the approach advocated here can lead any school, whether based in technology, business, or liberal arts, toward making rhetoric a central concern in its curriculum. As we have noted, impetus for such programs must evolve from those most committed to seeing rhetorical performance enhanced: composition and rhetoric specialists. These individuals need to recognize the methodology inherent in scientific and technological disciplines (problem, objectives, experimentation, solution) and use such an approach in advocating a decentralized WAC program. Moreover, directors of such programs need to look carefully at the characteristics that distinguish each discipline and fashion an instructional program that matches the *needs* of professionals engaged in that discipline. In so doing, writing program directors can simultaneously foster the generalized concerns for rhetoric and language development that connect us all.

Notes

¹Reviewing the WAC literature demonstrates this English department primacy in writing across the curriculum. Olson's *Writing Centers: Theory and Administration* (Urbana, Ill.: NCTE, 1984) assumes the English department orientation for such programs and generally concentrates on the English department/writing center relationship. Moreover, writing across the curriculum has been discussed primarily in composition and rhetoric periodicals subscribed to almost exclusively by English composition professionals. Notable exceptions include articles appearing over the last several years in *Engineering Education* and several forestry journals (*Journal of Forestry and Forestry Chronicle*). Kinneavy's review of WAC ("Writing Across the Curriculum," *Profession* 83, N.Y.:MLA, 1983, 13-20) emphasizes the centrality of English departments in program development even as it advocates dispersal of responsibility throughout the whole university curriculum.

²North suggests that the typical response of faculty to writing centers is that only the verbally lame and functionally illiterate need or use such facilities (*College English* 46[1984]: 433-466).

³For example, see E.P. Maimon, "Cinderella to Hercules: Demythologizing Composition Across the Curriculum," *Journal of Basic Writing* (1982): 3-11; Southern Regional Education Board, "Writing Across the Curriculum," *Regional Spotlight* 14 (1982): 1-8; and T. Fulwiler, "How Well Does Writing Across the Curriculum Work?" *College English* 46 (1984): 113-125.

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